# Lectures

ON THE

# ANATOMY AND PATHOLOGY OF THE EYE.

## LECTURE III.

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MR. PRESIDENT AND GENTLEMEN,—The pathology of glaucoma may not inaptly be compared to a large child's puzzle with many pieces of various and irregular shapes. Its framework has by the united efforts of many earnest workers been pieced together. Several important centre pieces, however, have yet to be added to make the picture complete. Some of these have probably been placed wrongly; every additional bit, however small, rightly inserted may, by forming some fresh curve or notch, suggest how the centre pieces should lie. I propose to-day to invite your attention to some of these small bits, the shape and situation of which I have carefully studied. Of all the theories which have been put forward to explain the increase of tension in glaucoma, that which attributes it to the obstruction to the exit of the aqueous humour from the eye, and which has been so ably expounded and supported by Mr. Priestley Smith, is the most fascinating and apparently explains best the phenomena met with. There are, however, several classes of cases which at first seem to offer considerable difficulties to its acceptance. If these at first sight exceptional cases can be shown really to be consistent with it, then great additional support will be afforded to the theory. These classes of glaucoma with which I now propose to deal are—(1) glaucoma occurring in eyes in which part or the whole of the iris is apparently congenitally absent; (2) congenital glaucoma, otherwise known as buphthalmos or hydrophthalmos; (3) glaucoma occurring after extraction of cataract; (4) glaucoma in cases in which the whole iris has escaped through a wound—i.e., cases of traumatic aniridia; and (5) cases of primary glaucoma in which the operation of iridectomy has been performed and in which the tension has returned. For the consideration of the first two of these classes it is necessary to refer to the development of the iris. Before the iris is formed there exists between the posterior surface of the cornea and the anterior capsule of the lens the anterior portion of the fibro-vascular sheath. This receives its blood-supply partly from the ciliary arteries and partly from those in the posterior fibro-vascular sheath, which is prolonged forwards around the sides of the lens to join it. The anterior fibro-vascular sheath is developed by a differentiation and vascularisation of the posterior part of the mesoblast, which grows in to separate the cuticular epiblast from the lens; the more anterior portion of this mesoblast developing into the substantia propria of the cornea and Descemet's membrane. The cornea, anterior fibro-vascular sheath, and lens lie, then, at one time in close contact with one another. Until the separation occurs of the anterior fibro-vascular sheath from the back of Descemet's membrane there is not even a potential anterior chamber. The iris, as it grows out of the ciliary body, consists of some mesoblastic cells and of the two layers of the secondary optic vesicle, the posterior of which is at first only slightly pigmented. It has to insinuate itself between the cornea and the anterior fibro-vascular sheath on the one side, and the lens on the other, pushing the prolongation from the posterior fibro-vascular sheath in front of it. The anterior fibro-vascular sheath, when the iris has grown in, becomes raised from the surface of the lens capsule, and forms the pupillary membrane, which subsequently disappears as far as the small circle or corona of the iris. Tags of it when persistent can be seen proceeding from the toothed edge of this corona. It is not at first evident, if primary glaucoma is due to an obstruction to the exit of the aqueous humour from the eye by the apposition of the root of the iris to the periphery of the cornea, how, when the iris is apparently absent in part of or in its entire circumference, glaucoma can develop.

I have been fortunate in having three specimens which help to explain these cases, for two of which I am indebted to Mr. Nettleship. The first is from the patient I have already referred to in speaking of anterior polar cataract, who had apparent complete congenital absence of both irides. The second is from the mother of this patient, who also had apparent complete congenital absence of both irides, and in one eye a leucomatous staphylomatous cornea, with increased tension, secondary to ulceration of the cornea. The third was from a man aged thirty-six years, who had congenital coloboma of the iris outwards and primary absolute glaucoma. In the first case, though no iris could be detected clinically, on peeling off the sclerotic and cornea a small rudimentary iris was exposed in its entire circumference; it was broadest on the outer side, where it measured 2 mm. in length, above it measured 0·75 mm., and it was slightly broader above than below, and was narrowest of all on the inner side. In removing the cornea it was noticed that it was abnormally adherent at its periphery. Throughout the entire circumference of this rudimentary iris the uveal pigment showed at what corresponded to its pupillary border. Some delicate tags, remnants of the pupillary membrane, could be seen passing from the anterior surface of the iris to the lens capsule. Of the left eye microscopical sections were made; in these the cornea appears perfectly healthy. The ciliary body on each side of the section is seen to end in the rudimentary iris, above measuring 1 mm., but much smaller below; the whole of its tissue appears more condensed than usual. Above, the free margin extends just beyond a line drawn backwards on a level with the termination of Bowman's membrane. This line corresponds to the apparent sclero-corneal margin clinically, the real corneal margin being an oblique line extending posteriorly to the angle of the chamber. Below, the tip of the iris does not extend beyond the termination of Descemet's membrane in the ligamentum pectinatum. A small rudiment of the sphincter muscle is distinguishable in the upper part of the iris, but not below. The uveal pigment ends on both sides in a double fold; above, it extends a short distance beyond the stroma. One section shows a tag of membrane prolonged from the anterior surface and floating free, a remnant of the pupillary membrane. In some sections delicate bands of adhesion are seen to pass from the anterior surface of the iris to the ligamentum pectinatum; these do not, however, go up into the extreme periphery of the anterior chamber. In this case, then, though clinically apparently no iris was present, there was really a rudimentary one, which, if pushed forwards, would be quite sufficient to block the whole of the posterior surface of the ligamentum pectinatum. Owing to the obliquity of the sclero-corneal margin the periphery of the iris is hid from view, and when it is very small, as in this case, none of it may be visible. In the left eye of the second case, the mother of the first, there was increased tension; a rudimentary iris, similar to that in her daughter, had become pushed forwards into contact with the periphery of the cornea and was intimately adherent to it. Why it should have become thus pressed forwards from a perforating ulcer of the cornea was not evident; possibly the extensive hæmorrhage which there had been between the choroid and sclerotic may have had something to do with it. In the third case, the one with congenital coloboma of the iris outwards and primary glaucoma, the ciliary body in the region of the coloboma ends in a rounded knob, which is in contact with the back of the cornea. The termination of this knob, however, does not reach as far as the end of Descemet's membrane, so that the whole of the posterior surface of the ligamentum pectinatum is not blocked by it. The uveal pigment on the back of the termination of the ciliary body is composed of two layers united at the tip, the posterior being much thicker than the anterior. Just where these end on the posterior surface of the ligamentum pectinatum there is a little accumulation of fibres and cells; from it the endothelial lining of Descemet's membrane passes inwards and a layer of cells outwards beneath the pigment on the termination of the ciliary body; this layer of cells may possibly be a persistence of the prolongation forwards from the posterior fibro-vascular sheath to join the anterior. From the arrangement of this knob at the termination of the ciliary body, with a layer of unpigmented cells behind it, I should think that it had never become separated from the cornea, rather than that it had recently become pushed forwards into contact with it; so that probably there had

always been obstruction to the exit of fluids in this situation, and the onset of the glaucoma was determined by the root of the iris in the rest of its circumference becoming displaced forwards. In a case like this, then, there would be a congenital predisposition to glaucoma. In the first case, although no increase of tension was ever established, there would seem to have been a predisposition to it, for, as I have said, tags of adhesion, not sufficient to block the angle of the chamber, passed across between the rudimentary iris and the ligamentum pectinatum. Several cases have now been published in which the iris was entirely or in part absent, and in which the eye became glaucomatous. Brailey[1] showed at the Ophthalmological Society a girl eighteen years of age with double microphthalmos and glaucoma; the iris was absent in her right eye except for a narrow crescentic piece on the inner side which occupied about two-fifths of the circle, and it was absent in the left except for three small isolated bits, also on the nasal side. Armaignac[2] reports a case of glaucoma secondary to dislocation of the lens in a patient with nearly complete aniridia.

I recorded in the *Ophthalmic Review*,[3] 1891, the notes of a patient under the care of Mr. Waren Tay who had apparent complete absence of the irides in both eyes and increased tension of both. De Schweinitz[4] read before the American Ophthalmological Society the description of a case of coloboma of the iris, polycoria, and primary glaucoma in a woman aged fifty-two years.

There is a practical point in connexion with these cases which follows as the outcome of my observations—that is, that the apparent complete congenital absence of the iris or the presence of a congenital coloboma of the iris does not diminish the likelihood of relief of tension being obtained by a sclerotomy in the former case or an iridectomy in the latter. It is but seldom that an opportunity offers itself for the microscopical examination of an eyeball with apparent aniridia. I have only been able to discover two in which the result of such an examination is recorded. H. Pagenstecher[5] in 1871 was the first to give a description of the microscopical characters of a case of irideremia. In his case the ciliary body ended in the region of the ligamentum pectinatum in a small, pointed, pigmented, and vascular process; and a prolongation of Descemet's membrane with the endothelium lining it passed beneath this process to the ciliary body. In the last volume of Graefe's Archives, 1891, G. Rindfleisch has given an excellent microscopical description of a case, together with a *résumé* of the literature of the subject. His case was that of a woman aged fifty-one years, who presented the typical symptoms of irideremia in both eyes. She had nystagmus, some amblyopia, and some opacities of the corneæ and lenses, the latter being displaced upwards. Microscopically there were found to be considerable encroachment of the episcleral tissue on the cornea, some hyaline excrescences on Bowman's membrane, and a tiradiate deposit of pigment on Descemet's membrane. At the lower sclero-corneal margin there was the scar of a perforation. A rudimentary iris was present, but its sphincter muscle was completely absent. It was closely approximated to the cornea, the angle of the chamber appearing pointed. The ciliary body was badly developed and its processes were directed backwards. Manz suggested that the arrest in the development of the iris in cases of aniridia is due to the contact of lens and cornea mechanically preventing its growth inwards. Rindfleisch agrees with Manz, and attributes the contact of lens and cornea in his case to intra-uterine inflammation, beginning in the choroid, extending forwards, and causing perforation near the sclero-corneal margin and escape of aqueous. In my specimens no sign of a perforation is to be seen either in this region or in the cornea. The sclero-corneal margin is a very unusual position for a perforation to occur in, and it seems unlikely that a bilateral affection, as irideremia usually is, would be caused in this way. It is, moreover, unnecessary to have a perforation for the lens to come in contact with the cornea, for at the time the iris is developing these structures are in apposition, the anterior fibro-vascular sheath alone intervening; there are then no anterior chamber and no aqueous. We have only to imagine an abnormal adhesion or late separation of these structures to understand how the iris may be prevented from growing in. The adhesions between the front of the rudimentary iris and the ligamentum pectinatum, the folded condition of the uveal pigment at the tip of the iris, and the presence of an anterior polar cataract in the case I have examined are all in keeping with such a theory. If arrest of development of the whole iris can be explained in this way it follows that, supposing the late separation or abnormal adhesion of lens and cornea to be localised, a localised arrest of development of the iris would be occasioned. In this way might be explained cases in which a coloboma of the iris is situated in a position in which it is inconceivable that the fœtal cleft could ever have existed, and also the rare cases in which two colobomata of the iris have been seen to exist in the same eye.

The anterior fibro-vascular sheath is, as I have said, developed from the posterior part of the mesoblast, which grows in to separate the lens from the cuticular epiblast, the anterior part forming the cornea. It can be easily understood that a portion of the anterior fibro-vascular sheath might remain after birth adherent to the cornea. The iris grows beneath the peripheral portion of the anterior fibro-vascular sheath, which comes to form its anterior layer; an adhesion of the anterior fibro-vascular sheath in this region to the back of the cornea would form an anterior synechia of the iris. The central portion of the anterior fibro-vascular sheath forms the pupillary membrane, which usually disappears before birth; occasionally a portion of it persists, and may be attached to the back of the cornea. Cases of adhesion of persistent pupillary membranes to the back of the cornea have been recorded by Beck,[6] Samelson,[7] Makrocki,[8] and Zinn.[9] In these cases there seems to have been a possibility that the adhesions were caused by intra-uterine perforation of the cornea. I have a specimen of this sort in which no such possibility was at all likely. It occurred in an eye to which I have already referred. In it the central artery of the vitreous was persistent and patent, ending behind the lens in a fibro-cellular membrane, which was seen through the lens as a grey reflex, which led to the diagnosis of glioma of the retina and excision of the globe. The cornea in this eye was quite clear and microscopically appeared perfectly healthy, but adherent to its posterior surface was a large piece of a persistent pupillary membrane, and also the pupillary border of the iris.

The case already quoted, in which the iris appeared clinically to be absent, but where really a rudimentary one was present from the anterior surface of which adhesions passed to the ligamentum pectinatum, is another example of congenital anterior synechiæ of the iris. I have met with two others. In one the adhesions were situated rather nearer the periphery of the iris than its pupillary margin in its outer half; they were about twelve in number, and appeared as little whitish elevations of the iris tissue coming forwards to the back of the cornea, which latter was perfectly clear. In this eye, besides the anterior synechiæ, there were some slit-like openings right through the substance of the iris, just external to the sphincter muscle. The other case was that of a girl aged seven years, whose mother stated she had noticed that the girl's right eye when she was born was larger than the left and that it had a slight cast, and since then that it had gradually increased in size. At the time of excision it appeared about as large again as the left. The cornea measured 12·5 mm. across. It was quite clear, and the iris at the upper part was adherent to it, elsewhere being in its normal position. It had no perception of light and the tension was increased. Microscopically the lamiæ of the cornea everywhere appear normal. Bowman's membrane in the region of the anterior synechia is replaced by fibrous tissue and Descemet's membrane is thickened. The endothelium lining the latter membrane turns round at the edge of the synechia to the anterior surface of the iris. The periphery of the iris is very thin and on both sides of the section is intimately adherent to the cornea. There are also some posterior synechiæ, but no round-celled infiltration in any part of the uveal tract. In this last case it would appear that the portion of the anterior fibro-vascular sheath which becomes incorporated with the iris had not only failed to separate from the back of the cornea in the region of the pupil, but also at its extreme periphery, so that there was a congenital block to the exit of the aqueous humour, which gave rise to an increased tension and expansion of the elastic tunics of the child's eye. Failure

[1] Transactions of the Ophthalmological Society, vol. x., p. 139.
[2] Mémoires et Observations d'Ophthalmologie Pratique, p. 239.
[3] Vol. x., p. 101.
[4] Transactions of the American Ophthalmological Society, 1891.
[5] Klinik für Augenheilkunde, Band ix., p. 425.
[6] Ammon's Zeitschrift, Band i., Heft 1.
[7] Centralblatt für Augenheilkunde, 1880, p. 215.
[8] Archiv für Augenheilkunde, Band xiv., p. 83.
[9] Klinisches Monatsblatt für Augenheilkunde, Band xxviii., p. 200.

in the separation of the iris from the back of the cornea at its extreme periphery might occur unassociated with anterior synechiæ elsewhere; such a condition of things would offer an easy explanation of cases of congenital glaucoma known under the names of "hydrophthalmos" and "buphthalmos." In an eye from a case of this sort sent to me by Mr. Papilion I have found extensive peripheral adhesion of the root of the iris to the cornea. The patient from whom it was removed was a boy aged fourteen years. When he was six weeks old the medical man first noticed his left eye to be larger than his right; it had gradually increased in size since then. The cornea at the time of excision measured 15 mm. across. No operation had ever been performed on it. I have examined microscopically several other eyes affected with congenital glaucoma in which the operation of iridectomy had been unsuccessfully performed, and in all these the angle of the anterior chamber was closed by adhesion of the root of the iris to the cornea both in the region of the coloboma and elsewhere. The anterior chamber in cases of congenital glaucoma is usually abnormally deep, and I should like to point out that it is quite possible to have a deep anterior chamber and at the same time for its angle to be closed, the iris being considerably bent at the point where the adhesion ceases. In an eye in which the primary obstruction to the circulation of the intra-ocular fluid occurred at the angle of the anterior chamber the fluid would be expected to collect in the anterior chamber and distend it. If, however, the primary seat of obstruction was further back, at the circumlental space, as it probably is in the primary glaucoma of adults, then the accumulation of fluid would occur in the vitreous chamber, which would be enlarged and the anterior chamber shallowed. I think the difference in the condition of the anterior chamber in the primary glaucoma of adults and in that of children can be thus explained by a difference in the seat of primary obstruction.

Cases of buphthalmos or congenital glaucoma sometimes go on to a spontaneous cure. Thus a child may be born with increased tension of the eye which may as the result of the tension expand to a certain size; then the tension may become normal, and, though the eye remains large and the sight defective, still no further enlargement or deterioration of vision may occur. I have sections of the eye of one such case which was excised when the child was four years old on account of pain following a blow. In them the iris is much displaced backwards and the angle of the chamber is open, but stretching across from the ligamentum pectinatum to the root of the iris fine, delicate fibrils are seen. The appearances suggest that possibly originally congenital adhesions existed between the root of the iris and cornea, which checked the exit of aqueous humour from the eye, and that as this accumulated in the anterior chamber and distended it these adhesions became stretched, some of them giving way, so that ultimately normal tension became established.

Glaucoma coming on after extraction of cataract is a subject which presents many points of interest, not only to the pathologist, but also to the practical surgeon. In 1888 I published the clinical history of four such cases, and in 1890 I read before the Ophthalmological Society a paper based on the pathological examination of ten eyes in which sight had been destroyed by increased tension supervening on extraction. Since then I have examined pathologically eleven more eyes similarly affected. From the commencement of 1885 to the middle of 1889 there were extracted at the Royal London Ophthalmic Hospital, Moorfields, 1405 senile cataracts; in nine of which cases the eye was subsequently lost from the results of increased tension, giving an average of 0·64 per cent. It can be easily understood that the fact of the lens and a portion of the iris being absent would not materially affect the course of a serous cyclitis. Supposing such an attack to occur in an aphakic eye, there would be the same tendency to the accumulation of cells in the meshes of the ligamentum pectinatum as the fluid containing them filtered through it, and there would be the same excess of fluid thrown into the eye. There would be the same increase in the albumen in the fluid, which hinders its power of diffusion through animal membranes. I have found many cases of increased tension after extraction to be due to the onset of such inflammatory trouble; it is not these I particularly wish to deal with now, but those in which the operation apparently goes perfectly smoothly and in which the wound heals well, the eye recovering from the operation without any or with only slight inflammation, and in which increase of tension subsequently ensues. In such cases there can be no obstruction of the circumlental space, for the lens is absent; the pupil is not blocked, and it might be imagined that, as iridectomy had been done, the angle of the anterior chamber in the region of the coloboma would be open. In these cases the time at which the increase of tension comes on after the extraction varies. It may be noted as soon as the wound is sufficiently healed to permit of its estimation, or it may not occur until a year or more after. Often the operation of discission seems the exciting cause of the glaucomatous attack. How can all these cases be explained? From the examination of my specimens I believe as follows. In all eyes in which glaucoma comes on after extraction of cataract there is adhesion or entanglement of the lens capsule in the extraction scar. This adhesion or entanglement holds the root of the iris, or the anterior of the ciliary processes if the iris has been removed up to the periphery, in close contact with the back of the cornea in the region of the coloboma and so keeps the angle of the chamber blocked in that situation. The advanced position which the capsule takes, by reason of its attachment to the cornea, draws forwards the iris lying in front of it, and in this way approximates the root of the iris, elsewhere than in the region of the coloboma, to the periphery of the cornea. In some cases, especially those in which the extraction scar is very corneal, the advance in the position of the capsule is so great that the apposition of the cornea and iris is actually occasioned. In such cases the increased tension follows directly the wound has closed after the operation. The adhesion of the lens capsule to the extraction scar is sometimes composed of inflammatory exudation; this on organising and contracting tends gradually to advance more and more the position of the capsule and consequently that of the iris. Such a gradual advance would explain those cases in which the increased tension does not make its appearance until some time after the cataract has been removed. In an aphakic eye in which glaucoma followed the operation of needling an opaque membrane I found, besides an adhesion of the capsule to the extraction scar, a second adhesion at the needle puncture. This second adhesion had caused a further advance in the position of the capsule, which led to apposition of the root of the iris and the cornea, and so to increased tension. A needle operation after extraction of cataract leads sometimes to the onset of increased tension without any second adhesion of the capsule to the cornea, probably either by the swelling of the cortical lens matter, so often left in the periphery of the capsule, through the action of the aqueous humour on it, or by the swelling of the ciliary processes occasioned by dragging on them in tearing through the capsule. This swelling of the cortical lens matter or swelling of the ciliary processes may be just sufficient to push forward the root of the iris into contact with the cornea, to which it is already abnormally close by reason of the advanced position of the lens capsule. I have one specimen of glaucoma occurring in an eye from which a traumatic cataract had been extracted in its capsule; in it the anterior hyaloid of the vitreous is clearly shown adherent to the cicatrix in the cornea. An adhesion of the hyaloid of the vitreous to the cornea would tend to cause a greater advance in the position of the iris than an adhesion of the lens capsule, because normally it is further back. I have met with two eyes in which the whole iris had escaped through a wound near the centre of the cornea, and which afterwards became glaucomatous. Until I examined sections of them microscopically the cause of the increased tension in them seemed to me quite inexplicable. In both these eyes the lens had been wounded, some portion of it escaping and a broad adhesion of its capsule to the corneal scar remaining. In the escape of the iris through the wound the anterior part of the ciliary body had become drawn forwards, the advance in the position of which had been maintained by the adhesion of the lens capsule to the wound. In both specimens I find the most anterior of the ciliary processes in contact with the posterior surface of the ligamentum pectinatum.

Since Graefe, by what must be described as a lucky chance, discovered that the removal of a portion of iris would relieve the tension in primary glaucoma, numerous speculations have been made and theories suggested as to its *modus operandi*. Obviously the only way to obtain any accurate data upon which to form an opinion on this subject is to examine sections of eyes on which the operation has

been performed, and to compare those in which it has proved successful with those in which it has failed. Eyes in which iridectomy has relieved tension are not often obtained for pathological examination; I have, however, had four such specimens. Those in which the operation has failed—unfortunately, only too frequently—come into the pathologist's hands. A careful study of these offers many points of practical interest. As with so many subjects, when they come to be investigated closely the issue is found not to be a simple one. Iridectomy does not relieve tension always in precisely the same way—failure in relief of tension by iridectomy is not always due to the same cause. First I should like to point out that iridectomy is performed in two very different ways. So different are these two modes of performing the operation in their possible results as regards the relief of tension, that I think it would be well to designate them by two different names. The term "iridectomy" might be retained for those cases in which an incision is made and the iris simply drawn out and snipped off. The old name of "iridectomedialysis" might be revived for those in which after the incision is made the iris is drawn out, snipped on one side, then torn away from its insertion along the whole length of the wound, and finally cut off.

Before proceeding to the ways in which I have found iridectomy to relieve tension I will dispose of two of the theories which have been put forward with regard to it. It is held by some that in making the incision for iridectomy for glaucoma, the knife is passed into the extreme angle of the anterior chamber and made to open up the blocked spaces of Fontana and the canal of Schlemm. In order to be able to determine the exact relative position of a cicatrix to the sclero-corneal margin I have, in several recently excised eyes with healthy corneæ, made a scratch with a needle through the epithelium at what appeared to be the exact junction of the clear cornea with the opaque sclerotic. I then hardened the eyes and cut sections of them, and found that my scratch corresponded to the usually well-defined termination of Bowman's membrane. The distance of this landmark to a point on the surface of the globe on a level with Schlemm's canal is 1·61 mm., and to a point level with the commencement of the ligamentum pectinatum—i.e., where Descemet's membrane begins to split up—1 mm. On account of the obliquity of the line of junction of the cornea and sclerotic it follows, that an incision which passed external to the termination of Bowman's membrane and internal to the commencement of the ligamentum pectinatum would be partly corneal and partly scleral. One which passed internal to the termination of Bowman's membrane would be purely corneal, and one passing through the ligamentum pectinatum almost entirely in the sclerotic. The iridectomy cicatrices in the eyes which I have examined microscopically are nearly all oblique, the gap left in Descemet's membrane on the posterior surface of the cornea being more internal than the commencement of the cicatrix on the surface of the globe. The amount of obliquity varies considerably, and, speaking generally, it is more in those cases in which a keratome is used than in those in which the incision is made with a Graefe's knife. In only two of the eyes I have examined had the incision been made sufficiently peripheral to penetrate the ligamentum pectinatum. In one of these the lens escaped, and the ciliary body prolapsed the day following the operation. In none had the canal of Schlemm been reached. In one eye the cicatrix was entirely corneal. In the remainder, including those cases where the glaucoma was cured, it was partly corneal and partly scleral. Another theory is that the removal of the iris has little or nothing to do with the relief of tension, but that it is occasioned by the formation of a band of scar tissue, which, being situated at the sclero-corneal margin, allows of the filtration of the aqueous humour through it. *A priori*, it is unlikely that the fibrous tissue of a cicatrix would be more permeable by fluid than the fibrous tissue of the cornea or sclerotic. Experimentally, Schoeler[10] has shown that in rabbits' eyes upon which sclerotomies have been performed filtration is retarded, not promoted, and that when he increased the pressure in these eyes the cicatrices remained dry. Pathologically, I find in several eyes iridectomised for glaucoma good bands of cicatricial tissue, well at the periphery of the chamber and free for some part of their extent from any entanglement of the iris, in which the tension returned and persisted. Starting now with the known fact that whatever is the first factor in the causation of primary glaucoma the tension is kept up by the apposition of the root of the iris to the posterior surface of the cornea preventing the exit of the aqueous humour through the spaces of Fontana I find that in the four specimens I have examined in which normal tension was re-established (three of them being subsequently excised for some intercurrent malady and the other removed post mortem) the arrest in the exit of fluid from the eye was relieved in somewhat different ways.

The first case was that of a woman aged fifty-seven years, in whom iridectomy was performed for acute glaucoma of four days' standing; tension was relieved and the eye excised ten years later on account of an ulcer of the cornea with hypopyon. In this eye the angle of the anterior chamber was round and open, both in the region of the coloboma and elsewhere. The iris had not been removed to its extreme periphery, a portion of its root had been left. It would seem that in this case the apposition of the root of the iris to the cornea having only been of recent origin slight means were sufficient to dislodge it from its faulty position, and that the escape of the aqueous and the drag on the iris incident to the iridectomy had effected this. The second case was that of a man aged sixty-nine years, who had an iridectomy performed on his right eye for a glaucoma of two months' standing. The eye was excised five weeks afterwards on account of ulceration of the cornea; during the time which had elapsed since the operation tension had remained normal or slightly subnormal. Microscopical examination of this eye showed that the iris had been removed quite up to its point of junction with the ciliary body—that is, in this eye the iris had torn through at its thinnest part, as it usually does when drawn upon in the normal state. The filtration area in the region of the coloboma had thus been opened up through which the aqueous humour could escape. A similar result had been obtained in the third case: that of a woman aged eighty-eight years, who had had repeated attacks of increased tension. An iridectomy was performed and the tension remained normal up to the time of her death. The angle of the anterior chamber elsewhere than at the seat of the iridectomy in this eye remained closed. The fourth case was that of a private patient under the care of Mr. Tweedy, to whom I am indebted for the specimen. The patient was a woman who had chronic glaucoma in both eyes. In each an iridectomy was performed, and in each the tension was relieved. In the left the cicatrix became cystoid. Eleven months later, while out driving, she caught cold in the eye, and an attack of iritis ensued. Thirteen months after the iridectomy the left eye was excised for the relief of pain. In the region of the iridectomy scar of this eye there was a gap in the sclero-corneal tissue, over which the conjunctiva stretched and around which the conjunctival tissue was swollen and œdematous. Around the outer part of the gap in the sclero-corneal tissue the anterior part of the ciliary body turned, lining the outer wall of the gap, while remnants of the atrophied root of the iris were found lining the rest of it. Relief of tension in this case had evidently been occasioned not by the opening up of the normal passages for the exit of fluid from the eye, but by the formation of a fresh one in the shape of a fistula in the fibrous tunic of the globe, through which aqueous humour passed into the subconjunctival tissue. I have examined microscopically several cystoid cicatrices and find they are always lined by more or less atrophied iris tissue. If the cut end of a piece of iris becomes entangled in a wound, the wound in closing incorporates the iris in the cicatrix. If, however, a fold of iris tissue becomes involved, the anterior surface of the iris unites to the cut edges of the sclero-corneal tissue, the conjunctiva heals over it, and thus a gap is left lined by iris tissue in the walls of the eyeball. It is known that the iris tissue is impermeable by the intra-ocular fluids, for when the pupil becomes closed by total posterior synechiæ they accumulate behind it and bow it forwards, instead of passing through it. Hence it follows that an eyeball may have a gap in its coats, but that no escape of fluids would occur into the subconjunctival tissue through the gap so long as it was lined by impermeable iris tissue. Should, however, there be any tendency to accumulation of fluids in such an eye, the gap, being a weak spot, would yield and expand, the iris tissue lining it would become atrophied and stretched, and breaks would occur in the continuity of its uveal pigment layer, which is probably the chief obstacle to the passage of fluid through it. There

[10] Transactions of the International Medical Congress, 1881, vol. iii. p. 100.

would then be formed a thin bulging or cystoid cicatrix lined by very atrophied iris tissue, through which any excess of intra-ocular fluid would be able to pass into the subconjunctival tissue. It is not uncommonly observed, and was pointed out by Graefe, that these cystoid cicatrices periodically discharge themselves subconjunctivally, the explanation being that when the accumulation of fluid has reached a certain stage a rent occurs in the iris tissue which allows of its escape. Mr. Bader, in the form of sclerotomy which he advocates, seeks to produce a condition such as the above. He says:[11] "To secure success it is desirable to obtain, and to maintain, a staphyloma of the conjunctiva, with or without prolapse of the iris." De Wecker and most other operators endeavour to avoid a prolapse of any kind.

Such, then, being the ways in which I have found iridectomy to relieve the increase of tension in glaucoma, I will now describe what I have found to be the causes of failure in the operation. By far the commonest would seem to be the non-removal of the iris up to its extreme periphery, so that a portion of it is left blocking up the filtration area, sometimes rendered additionally secure in its faulty position by the healing of the cut end of the iris in the corneal cicatrix. In cases where glaucoma has been of long standing the root of the iris becomes absolutely adherent to the cornea, and when drawn upon, instead of tearing at its junction with the ciliary body, tears at the point where it ceases to be adherent, so that the filtration area never becomes opened up. Sometimes the adhesion of the iris is so firm that its separation is an absolute physical impossibility. In acute glaucoma, when the root of the iris only lies in apposition with the cornea and is not adherent to it, it tears away from its extreme periphery. This is the difference between acute and chronic glaucoma, which renders the operation of iridectomy such a very satisfactory proceeding in the former and so very unsatisfactory in the latter. Another cause of failure in the removal of the iris up to its periphery is the way in which the operation is performed; thus a simple withdrawal of the iris and snipping it off are not so well calculated to effect this as what I would term, as I have already explained, an "iridectomedialysis." Sometimes after an iridectomy for glaucoma the anterior chamber is very slow in re-forming. In such cases the plastic exudation thrown out to effect the closure of the sclero-corneal wound may unite the lens capsule lying in contact with the wound to it. Then when the anterior chamber does re-form, the part of the lens in the region of the wound will remain adherent to it, becomes drawn forwards, and may hold the anterior of the ciliary processes or the root of the iris if a piece of it is left, in contact with the ligamentum pectinatum in the situation of the coloboma. In such cases, it is needless to say, tension is not relieved. It has been suggested that where the lens is very much pushed forwards in cases of glaucoma, or where it seems unlikely that the anterior chamber will readily re-form, a scleral puncture should be performed as a preliminary procedure, and in some cases this has apparently seemed to answer its purpose well. I should like to point out, however, a possible danger which I have met with in connexion with scleral puncture. In a case in which it was performed suppuration in the vitreous subsequently ensued, and the eye had to be excised. Sections across the line of puncture show a prolapse of vitreous much infiltrated with pus cells lying in it. It must have been along this prolapse of vitreous that the suppurative infection had gained access to the interior of the eye. Prolapse or adhesion of the ciliary processes to the sclero-corneal cicatrix after the iris has been removed not infrequently occurs when the incision is a very peripheral one. A study of the anatomical relation of the anterior part of the ciliary body and iris shows at once that this is what might be expected. The anterior part of the ciliary processes extends for some distance behind the periphery of the iris, so that if the sclero-corneal incision is a very peripheral one, and the iris is drawn out, the anterior part of the ciliary body is drawn forwards with it; in one specimen I have it was cut off with the iris. An adhesion of the anterior part of the ciliary body to the iridectomy cicatrix I have found to block the filtration area, even after the iris has been removed up to its extreme periphery. In acute glaucoma I do not think there is any necessity, provided an iridectomedialysis be done, to make the incision very peripheral. The iris tears away naturally at its root when drawn upon, wherever the incision is, and a peripheral incision certainly increases the risks of the operation.

[11] Ibid., 1881, vol. iii., p. 98.

In conclusion, I should like to urge, as the result of my observations, the necessity of performing an iridectomy early in cases of chronic glaucoma. I think in some cases, even, it would be well to perform what might be termed a preventive iridectomy for this disease—that is, to perform an iridectomy when only the subjective symptoms are present and when no deterioration of vision has occurred. The risks of an iridectomy at such an eye are very small—they can hardly be considered to be greater than the risks of a preliminary iridectomy for an extraction of cataract. The chances of success, in preventing or relieving increased tension, of an iridectomy performed before adhesion of its root to the cornea has occurred are infinitely greater than after such adhesion is established.

## A CONTRIBUTION TO THE STUDY OF BERI-BERI.

BY E. W. VON TUNZELMANN, M.B. LOND., M.R.C.S. ENG.

THE following observations were made while I was in temporary charge of the Tan Tock Seng (or Pauper) Hospital at Singapore during the seven months prior to September, 1891. During this period about 400 cases of beri-beri were under my charge; I found time to take detailed notes of only fifty-two of these, twenty-one of which appear to me to be typical; and I have to thank Mr. W. A. Aeria, Government apothecary attached to the hospital, for much invaluable assistance in case-taking &c. I have hesitated regarding the publication of the cases, being fully conscious of many omissions which greatly impair their value; when I took them I was under the impression that the hydrostatic changes in the circulation in beri-beri, which it is my main object to elucidate, were mainly due to cardiac conditions, a view which more leisurely study of these cases has caused me to modify, while showing me many important points which I had failed to note. As, however, I have now no opportunity of investigating beri-beri I have decided to publish them, hoping that they may afford hints to other investigators of this, to a physiologist, fascinatingly interesting disease.

The Tan Tock Seng Hospital is an extremely well arranged and organised institution, chiefly for Asiatics, containing usually more than 600 patients. It has, however, the serious drawback of being situated virtually in a swamp (observations carried on for several months showed that the subsoil water averaged less than a foot from the surface, and the slightest turning up of the ground exposed offensive-smelling soil, typically that of an ordinary tropical marsh); hence beri-beri is endemic in the hospital, and a considerable proportion of the beri-beri patients contract the disease in it, in the general wards. As the first essential in the treatment of beri-beri is removal from the influence of the poison it is clear that the mortality in this disease observed in the hospital must not be taken as representative of the mortality under ordinary conditions. During the years 1887 to 1890 inclusive 1122 cases were under treatment, and of these 372 died, a mortality of 33 per cent. The returns for the same years from the medical report on the Straits Settlements Civil Hospitals by Mr. Simon give what is probably the more normal mortality—namely, 231 deaths in 1405 cases, equal to 16·4 per cent.

Seeing that English readers have at last in Dr. Gowers' recent text-book an accurate description of beri-beri—the only accurate one in any text-book with which I am acquainted—it will be sufficient briefly to define beri-beri as a chronic non-contagious miasmatic disease, the key to the infinite symptomatology of which is found in the facts—(1) that the essential lesion is peripheral neuritis, and (2) that almost any nerve may be affected, though some are much more often affected than others. It is of interest to remark that there is a general relation between the length of a nerve and its liability to disease. The stress of the disease falls first on the nerves of the lower limb, particularly those of the leg, and then on those of the upper limb. Much more rarely are those of the trunk affected, with the significant exception of the vagus, the phrenic, and the vaso-motor nerves of the face, puffiness of the face being a common and very early symptom. In none of the cases below abstracted was there any affection of the first, second, third, fourth, sixth, seventh

eighth, ninth, tenth, or eleventh cranial nerve, nor of those of the chest or abdominal walls. Only in one instance was the fifth cranial nerve affected. I have never seen the pupils or the sphincter muscles affected. In all the cases the condition of each of these nerves was tested as far as practicable—a point mentioned here, as there will be no further occasion to refer to it.

I propose now to narrate the essential details of such of the cases above referred to as appear to be of especial interest, omitting for brevity's sake any mention of the ordinary symptoms of the disease—such as muscular tenderness, paralyses, sensory changes, incoördination, &c.—the presence of all of which in each case, except when specially mentioned, may be taken for granted. With regard to these common symptoms, however, in view of the fact that recent writers in the medical papers still persist in mentioning anæmia as prominent among these, it is worth while reiterating the fact, clearly demonstrated by Pekelhering, Simon, and others, that anæmia emphatically is not a symptom of beri-beri; it is, of course, a common complication, as anæmic people are not exempt from beri-beri, and many beri-beri patients have previously had malarial fever, or still have it. When present to a marked degree it modifies the facies of the case in a manner which is very interesting and may be very misleading (*vide* Case 8). One very common symptom, however, requires notice, especially as in Dr. Gowers' epitome of the disease it, curiously enough, escapes mention—viz., the unpleasant epigastric sensation, which is almost the most prominent and striking of the subjective symptoms, certainly the one of which patients complain most and for which they most urgently crave relief. It is notoriously difficult, even for an educated European, to describe a pain, much more so for a Chinese or Kling coolie; but my Chinese interpreter termed it varyingly "pain," "dragging," "tearing," most often "fulness." It was sometimes located by the patient with the finger-tip, more often by the whole hand. Sometimes it was severe enough to make even a stolid Chinese howl or moan continuously; often it prevented sleep. Sometimes it was relieved by pressure, sometimes aggravated. A mustard plaster commonly gave some relief. It had no relation to gastric conditions, except that it might be aggravated by a distended stomach. I have noticed that in the comparatively few cases in which it was absent there was usually also no evidence of the loss of vagus influence over the heart (frequent palpitations often without obvious cause, pulse frequency greatly increased by slight exertion, &c.), and it is tempting to associate this symptom with the degeneration of the trunks of the vagi which was so commonly present. I may here mention that in nine cases I examined the vagus microscopically, in every instance finding abundant degeneration. In seven of the nine fatal cases below recorded this symptom was present; in one its presence or absence has, unfortunately, not been noted; the one in which it was absent was progressing favourably when he was cut off by one of those sudden "accidents" which are the special dangers of beri-beri (Case 14). Though the affection of the peripheral nerves tended to be symmetrical, this symmetry was not absolute; this was more especially the case in the upper limbs. Paralysis, or paresis, may be more extensive on one side than on the other; pain may be more severe or anæsthesia more marked; similarly vaso-motor paralysis may be much more evident in one radial artery than in the other—or, indeed, evident in one only. I found that it was nearly always possible to get sphygmographic tracings from the radial arteries, whereas in œdematous cases it was generally impossible to get them from the arteries of the lower limbs.

### TWENTY-ONE TYPICAL CASES.

CASE 1.—A man thirty years of age was first attacked on March 15th. On admission to hospital on March 19th he had well-marked paralysis of the peronei and extensors of the ankles; sensory phenomena were prominent; there was very slight œdema of the crests of the tibiæ, which soon disappeared. There was no evidence of cardiac affection; the pulse was fairly normal, rather soft. He complained of epigastric sensation ("as if some one were pulling at it") He convalesced rapidly and was discharged, but was readmitted on June 4th suffering from severe muscular pains, tenderness &c., and of contraction of the muscles. There was no œdema, and the pulse was 72, regular. The patient was discharged quite well on Aug. 21st.

CASE 2.—The patient, twenty-one years of age, was first attacked five weeks before admission to hospital on March 5th. He was suffering from slight anæmia (he had suffered previously from malaria), very slight œdema along the tibial crests and the dorsa of the feet, and extensive paralysis of the lower limbs. There was no epigastric sensation. He was discharged cured on July 16th.

CASE 3.—The patient, a man twenty-one years of age, was attacked for the second time one month before admission to hospital on March 25th. He was suffering from slight anæmia (he had had ague), extensive œdema of the arms, neck, and trunk, slight œdema of the feet, and extensive paralysis of all the limbs, which were much wasted. There was no epigastric sensation. The right heart was dilated; the pulse was 96, small, and very compressible. Five minims of tincture of strophanthus were ordered every three hours from March 25th to 31st, when the pulse was 82, of fair size, and the œdema much less. On April 1st the temperature, previously normal, was found to be very low—95° F. in the rectum—and it remained so until his death on the evening of April 2nd. He was given three minims of glonoine (1 per cent. solution) every three hours, and then five minims, but without effect. At the necropsy ten ounces of serum were found in the right pleura, six ounces in the left, and seven ounces in the pericardium. The lungs were œdematous. There was no anasarca. The right side of the heart was much dilated; the wall of the ventricle was thinned.

CASE 4.—A man twenty-eight years of age was first attacked four weeks before admission to hospital on March 31st. There were slight anæmia (he had suffered previously from malaria), slight œdema of the feet, very extensive paralysis of the lower limbs, with much wasting, slight paralysis of the upper limbs, and laryngeal paresis. The epigastric "uneasiness" was absent. After the subsidence of moderate fever, probably malarial, which he had on admission, the temperature at 7 A.M., from April 25th until June 16th was usually about 97·4° F.; once it was 96·2°; from June 16th, when the paralysis was much less, up to Sept. 7th, when he was nearly well, the temperature at 7 A.M. was never below 98°.

CASE 5.—The patient, twenty-six years of age, was first attacked three weeks before admission to hospital on April 2nd. There was no anæmia; the face and feet were slightly œdematous; the right heart was dilated; the pulse was small and compressible. He experienced epigastric sensation. On April 8th the right heart was more dilated; a mitral systolic bruit was audible; the veins of the neck were engorged and pulsatile, and the respiration (sighing) was frequent; the epigastric sensation was worse. The legs were slightly œdematous. (Three minims of glonoine had been ordered to be taken every hour early on the 9th.) On the 10th he was very restless, tossing his arms and legs about; the pulse at the wrist could hardly be felt—uncountable; the rectal temperature was below 95° F. He died at 7.30 A.M. At the necropsy the body was found to be well nourished; there was no œdema of the lungs. The pericardium contained 3 oz. of fluid. The right heart was greatly dilated and engorged. The cardiac muscle was apparently healthy. Two branches from the deep cardiac plexus to the heart were prepared with osmic acid and examined; a few degenerated fibres were discovered in one, but none in the other.

CASE 6.—A man forty-four years of age was first attacked four weeks before admission to hospital on April 9th. His condition was as follows. There were very slight anæmia (no history of ague obtainable); moderate œdema on the dorsa of hands and feet, crests of the tibiæ and forearms; almost complete paralysis of the lower limbs and wrist drop; the flexors of the hands and wrists were paralysed; the pulse was 100, small and compressible: the veins of the neck were engorged and pulsatile; there were epigastric sensation and impaired sensation over the right side of the face, and extensive anæsthesia elsewhere. On May 5th the diaphragm was paralysed, bedsores and a superficial abscess about the right elbow having supervened. On the 8th the patient died. The temperature during the first week was normal, ranging from 98° to 98·3° F.; subsequently it was commonly subnormal at 7 A.M., except towards the end, when the abscess no doubt affected its course. On April 24th he was ordered five minims of liquor strychniæ in a mixture, to be taken every four hours; on the 25th the dose was increased to eight minims, and on the 27th to ten minims. On May 1st the patient complained of twitchings of the arm muscles, and the dose was reduced to eight minims; on May 5th it was stopped. At the necropsy the body was found to be much emaciated, the muscles were extensively

wasted, the heart was small and flabby. The pericardium contained 3 oz. of fluid.

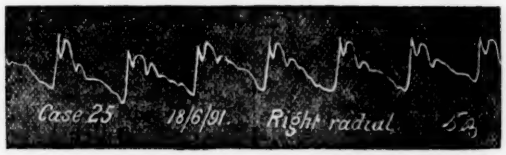
CASE 7.—The patient, nineteen years of age, was first attacked one month before admission to hospital on April 9th. There was no anæmia or œdema. He was suffering from extensive paralysis of the lower limbs, and a good deal in the upper limbs. The pulse was 112, small and compressible; he did not complain of epigastric sensation. By May 14th there was general improvement; the paralysis was slightly less, the pulse was very variable, 76 to 120. On the 19th the pulse was 84, very small and compressible, being scarcely perceptible at the wrist. The epigastric sensation was worse, causing much distress. A sinapism was ordered to be applied to the epigastrium. Five minims of glonoine were ordered to be taken every three hours. On the 26th the pulse was 84, of better size and tension. The epigastric distress was slightly less. There was slight œdema along the crests of the tibiæ and the dorsa of the feet. In the evening the patient became very restless and the dyspnœa was urgent. He died shortly after midnight. At the necropsy there was found general slight anasarca. The right pleura contained 5 oz. of fluid, the left 2 oz., the pericardium 3 oz., and the peritoneal cavity contained a small quantity. The liver was enlarged and congested; the spleen was three times the natural size. There was a large antemortem clot in the right auricle and right ventricle. The right heart was dilated and hypertrophied.

CASE 8.—The patient, twenty-six years of age, had previously had malaria. He was admitted to hospital (first attack) on May 1st. He was markedly anæmic; there were moderate general œdema and limited paralysis in the lower limbs only. The pulse was 108, strong and full. The superficial veins were engorged and pulsatile; the cardiac impulse was strong; there was no dilatation; an anæmic bruit was audible. The patient rapidly improved without notable incident. He was discharged on July 6th. The œdema in this case was due to anæmia; the other symptoms, therefore, and the prognosis differed from those of cases in which equal œdema was due to vaso-motor paralysis.

CASE 9.—The patient was twenty-one years of age. He was first attacked two months before admission to hospital on May 7th. He was suffering from slight anæmia (he had had malaria), slight œdema of the dorsa of the feet, extensive paralysis of the lower limbs, slight paralysis of the upper limbs, and epigastric fulness. The pulse was 80, of fair size and tension. The cervical veins were engorged and pulsatile. On May 20th the œdema had disappeared; the patient had gained 9 lb. in weight. On the 28th diarrhœa supervened, frequent loose, watery motions being passed without pain. No treatment was able to check the diarrhœa, and on June 13th he died; prior to death there were extreme dyspnœa, tossing of the limbs, imperceptible pulse, and cold extremities. At the necropsy both lungs were found to be œdematous. Each pleura contained 3 oz. of fluid; the pericardium contained 1½ oz. The patient was doing well until the splanchnic vascular area became involved, *vide* below.

CASE 10.—The patient, twenty-one years of age, was admitted to the hospital for some other disease on April 20th; he acquired beri-beri, and was transferred to the beri-beri wards on May 10th. There was no anæmia or œdema. There was slight dilatation of the right heart; the pulse was 80, small, and compressible. He experienced no epigastric uneasiness. There was much paralysis of the lower limbs; he could not stand without assistance. The patient was discharged quite well on Aug. 11th, except that the knee-jerks had not returned. The point of interest in the case lies in the course of the temperature; during the first five weeks the 7 A.M. temperature was always below 98° F., except twice towards the end of the fifth week. From then up to the time of his discharge the 7 A.M. temperature was always 98°, or a trifle above it.

CASE 11.—The patient, nineteen years of age, was first attacked two months prior to admission to hospital on May 12th. There was no anæmia and but slight œdema along the crests of the tibiæ; there was limited paralysis of the lower limbs, none in the upper limbs, but muscular tenderness. He complained of epigastric "fulness." The right heart was dilated; the pulse was 80, small, and compressible. On May 16th the grasp of the hand on each side was weak. Epigastric pain was much complained of; there was noise on pressure. The pulse was very small. On June 2nd the œdema had disappeared and the pulse was of fair size. There was a general improvement in the patient's condition. On June 9th and the following day there was much œdema of the right arm, which disappeared on the 11th. A week later the following two tracings[1] were taken. The difference in tension between the radial arteries is very noticeable, tension being much less on the side which was lately affected with œdema—the right side. By June 22nd the patient had improved; the



œdema had disappeared and he could walk. On July 3rd the right radial pulse was still more bounding than the left. On the 16th the patient was discharged quite well.

CASE 12.—A man thirty years of age was first attacked twenty days prior to admission to hospital on May 12th. There was no anæmia or œdema. There was slight paresis in the lower limbs; epigastric fulness was felt. The pulse was 84, of fair size and tension. The cervical veins were prominent. He steadily improved, and was discharged on June 13th, apparently quite well. He was readmitted on June 26th, complaining chiefly of painful starting of tendons at night. There was slight œdema along the crests of the tibiæ. He did not complain of pain or tenderness anywhere. The legs were numb. No epigastric sensation was present. On the 14th the œdema of the feet and legs was increasing. The pulse was 70, good. On the 18th the pulse was practically normal. Hypodermic injections of liquor strychniæ (two minims) were performed three times a day. On Aug. 1st the œdema was unaltered; the injections of liquor strychniæ were stopped, and twenty minims of tincture of digitalis were ordered to be taken every four hours. On the 13th there was general slight œdema. The pulse was 108, small and rather hard, more so on the left side than the right. On the 24th ten minims of tincture of strophanthus, to be taken every four hours, were substituted for the digitalis. On the 26th the pulse was 112, small, compressible, and irregular in force, vigorous and feeble beats alternating, and one being sometimes dropped. The œdema of the legs was less. As the strophanthus was causing vomiting, half a drachm of tincture of digitalis every four hours was resumed in its place. A flannel jacket was also ordered. Tension was now somewhat higher in the right radial. On the 28th the pulse was 96, still irregular and occasionally intermittent. The digitalis by the mouth was stopped on account of the vomiting it provoked. Digitaline ($\frac{1}{100}$ gr.) was hypodermically injected three times a day. On the 31st the pulse was 88, regular, of fair size and tension. The patient said he felt much easier. The digitaline was ordered to be stopped. On Sept. 2nd the pulse was 80, regular, of good size and tension. The lower part of the body was much less œdematous. The œdema persisted on the dorsum of the right hand. On the 7th the œdema of the trunk and limbs had nearly disappeared, except from the scrotum, which was very œdematous. The pulse was 80, regular.

CASE 13.—A man twenty-six years of age was admitted to hospital in December, 1890, for a severe wound of the foot. He contracted beri-beri, and was transferred to the beri-beri wards on May 14th, 1891. There was no anæmia. Moderate general œdema was present, and extensive paralysis of the lower limbs. The heart was dilated; the pulse was 92, small, and compressible. There was cardiac dyspnœa. On May 20th there was œdema of the scrotum. A flannel jacket was ordered. On June 2nd the pulse was very small. Five minims of glonoine were ordered to be taken every four

[1] It will be seen that these charts are marked "25." The number tallies with the number in the original series of fifty-two.

hours; later, every three hours. On the 3rd there were orthopnœa and physical signs of œdema of the lungs. On the 6th the pulse was very small and soft; it was much improved by a hypodermic injection of digitaline ($\frac{1}{100}$ gr.). Half a drachm of the tincture of digitalis was ordered to be taken every four hours. On the 9th the dyspnœa was much less; the œdema was slightly less. On the 16th ten minims of tincture of strophanthus were ordered to be taken every four hours in place of the digitalis, which caused nausea. On the 19th the œdema had greatly increased. The urine was very scanty. The digitalis was resumed, half a drachm being given every four hours. On the 22nd the dyspnœa was less severe, but the œdema was still extreme. The digitalis had again to be stopped. A saline diuretic was given, but without noticeable effect. On July 3rd the pulse was very small. Three minims of liquor strychniæ were injected hypodermically three times a day. On the 24th the patient was completely waterlogged. The dyspnœa was extreme. Half a grain of elaterium was ordered, but it proved useless. On the following day the digitalis was resumed. The patient died at 3 P.M. The necropsy revealed extreme general anasarca. There were 18 oz. of serum in the right pleura, 8 oz. in the left, 14 oz. in the pericardium, and 40 oz. in the abdomen. The lungs were very œdematous. The right side of the heart was much engorged and dilated.

CASE 14.—The patient, forty-one years of age, was attacked for the second time one month before admission to hospital on May 18th. There was no anæmia. There were general œdema, especially of the trunk and the lower limbs, and extensive paralysis of the lower limbs, also some paralysis of the upper limbs. No epigastric sensation was complained of. The superficial abdominal reflexes were absent. The heart was apparently normal. There was no palpitation or precordial pain. The pulse was 80, small and compressible. Pulsation in the main arteries was visible. On June 2nd the œdema of the lower limbs was less. The back of the right hand was œdematous, but the left hand was not affected (the patient lay mostly on the right side). The front of the chest pitted on pressure. He continued to improve. On July 18th he could stand upright. The œdema was nearly gone. There was a nearly circular patch of œdema, about two inches in diameter, on the front of the left tibia. The pulse was 102. On the 21st he was suffering from severe diarrhœa, having passed twelve loose watery motions during the night. At 10 P.M. cardiac dyspnœa came on. The pulse was 120, thready, the veins engorged, and the face was cyanosed. The patient was in great distress. He was bled to 4 oz. by the resident medical officer, but without effect. He died at 8 A.M. At the necropsy the lungs were found to be very œdematous. The right pleura contained 3 oz. of fluid (there was none in the left) and the pericardium 3 oz. The right side of the heart was extremely engorged. There were ante-mortem clots in both ventricles. A small artery was found entering the centre of the above-described patch of œdema on the front of the left tibia (previously marked with aniline); it was removed and stained with chloride of gold.

CASE 15.—A man twenty-six years of age was attacked for the second time about ten days before admission to hospital on May 31st. There were slight anæmia and slight œdema of the feet. Epigastric sensation was experienced. The pulse was 116, compressible. There were palpitation on the slightest exertion and limited paralysis in the lower limbs. From June 28th to July 3rd he had a sharp attack of diarrhœa which checked his convalescence for awhile. On Aug. 10th there was slight œdema along the crests of both tibiæ. On the 11th this had disappeared, but the face was somewhat puffy. On the 26th there was general œdema of the limbs. The pulse was 124, harder on the right side than on the left. On Sept. 7th the œdema was about the same, except that the scrotum was affected. The patient walked fairly well.

CASE 16.—A man twenty-eight years of age was first attacked six weeks before admission to hospital on June 12th. There was no anæmia or œdema. There was extensive paralysis of the lower limbs and some of the upper limbs; there was also paralysis of the larynx and diaphragm. The patient did not suffer from epigastric sensation. He improved slowly. On Sept. 7th he was much stronger; he could stand upright unaided, but could not walk. He had slight œdema of the feet and crests of the tibiæ.

CASE 17.—The patient, twenty-five years of age, was attacked for the second time about ten weeks before admission to hospital on June 18th. There was slight anæmia; he had suffered from malaria, but no œdema. There was limited paralysis of the lower limbs. The patient's sleep was disturbed by epigastric sensation. The heart sounds and the area of dulness were normal. Pulsation of the vessels of the neck was visible. The pulse was 100, of fair size. On June 27th the pulse was 68. On July 18th there was moderate œdema along the crests of the tibiæ. The muscular condition had improved. From July 22nd to July 31st the patient had a severe attack of diarrhœa. On Aug. 12th the œdema had disappeared, and he was gaining strength. The pulse was 80. On the 21st the patient escaped over the wall at night.

CASE 18.—The patient, twenty-four years of age, was attacked for the second time about five months before admission to hospital on June 17th. On June 23rd there was no anæmia. There was general œdema, especially along the crests of the tibiæ, forearms, and the face. The eyelids were puffy. There was limited paralysis in the lower limbs. No epigastric sensation was now complained of, but the patient had suffered from it three months previously. The heart was dilated; there were a blowing, systolic murmur at the apex and frequent palpitation. The pulse was 108, regular, rather small, and compressible. On the 30th five minims of glonoine were ordered to be taken every four hours. On July 1st the pulse was very small and irregular. At 4 P.M. there was orthopnœa; epigastric pain was much complained of. At 9 P.M. the pulse was almost imperceptible. The pericardium appeared to the resident medical officer to be full of fluid; he tapped it with a Southey's trocar in the fifth interspace, after an unsuccessful attempt in the sixth; two drachms of clear fluid were drawn off, which then became sanguineous. Death occurred almost at once. At the necropsy general anasarca was found. There was a moderate amount of fluid in each pleura, but a good deal in the abdomen. The lungs were engorged and œdematous; the bronchi were full of aerated fluid. A large clot was present in the pericardium. The tricuspid and pulmonary valves were healthy. There was split-pea perforation in one aortic valve. The mitral valves were thickened and contracted.

CASE 19.—The patient, twenty-five years of age, was first attacked two months before admission to hospital on June 22nd. On July 3rd there was no anæmia. There was œdema of the legs and feet, and the gait was unsteady and sleep disturbed by epigastric sensation. The pulse was 24, compressible. There was palpitation only on exertion. The pulse became steadily smaller, in spite of large doses of digitalis, and finally became imperceptible. Dyspnœa was very severe. The patient died on the 18th. At the necropsy there were 30 oz. of fluid in the right pleura, 16 oz. in the left, and 2 oz. in the pericardium. The lungs were œdematous. The right side of the heart was greatly dilated and engorged. Ante-mortem clot was found in all the cavities.

CASE 20.—The patient, thirty years of age, after his first attack, three months previously, had a relapse; he was admitted to hospital on Aug. 1st. On the 8th there was slight anæmia (the result of former malaria). The dorsa of the feet were slightly œdematous. The lower limbs were extensively paralysed, the upper limbs less so. The patient suffered from epigastric "fulness." The heart was dilated and the pulse 88. There was constant precordial pain, but no palpitation; the respiration was normal. Half a drachm of tincture of digitalis was ordered to be taken every four hours. On the 12th the respiration was entirely abdominal, 38 per minute, and shallow. On the 14th half a drachm of tincture of digitalis was given every three hours. On the 16th five minims of glonoine were prescribed instead of the digitalis, to be taken every three hours. On the 26th the patient collapsed; the extremities were cold; the pulse was 40, very small and irregular. The temperature 97·4° F. in the rectum. Five minims of glonoine were prescribed, to be taken every hour, and half a drachm of tincture of digitalis every four hours. The pulse in the evening was 76, regular, and of fair size. On the 27th the pulse was 38, of low tension. On Sept. 1st a hypodermic injection of $\frac{1}{100}$ grain of digitaline was ordered three times a day. The next day the pulse was 60, very irregular and intermittent; on the following day the digitaline was reduced to one injection a day. On the 7th the general condition was improved, the patient feeling much stronger. The pulse was 40, of low tension.

CASE 21.—The patient, twenty-eight years of age, was first attacked two months before admission to hospital on Aug. 11th. There was no anæmia or œdema. He could not stand. He suffered from epigastric fulness and occasional palpitation. The heart was slightly dilated. The pulse was

84, tension somewhat lower on the right side. On Sept. 7th the patient was convalescent.

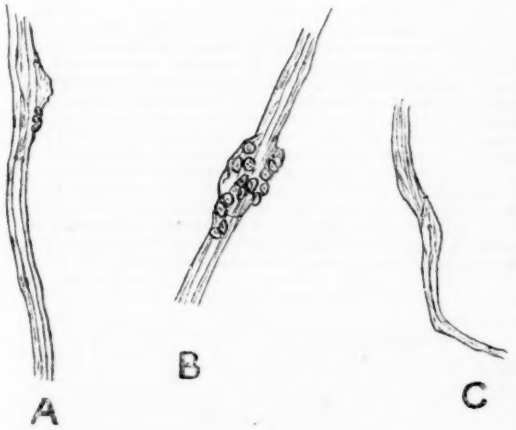
### PATHOLOGICAL ANATOMY.

In the nine fatal cases above narrated the cause of death was obviously circulatory failure, the causation of which is a point to be subsequently discussed. In all these cases the vagi were found to be more or less extensively degenerated, as described in Pekelharing's monograph; in two cases, also, branches to the heart from the cardiac plexuses were found to be similarly degenerated; in a third case, however, which an unfortunate accident prevents my positively identifying, but which I believe to be Case 5, of two branches from the deep cardiac plexus one was found to be perfectly normal, the other nearly so. The heart wall in this case showed no naked-eye evidence of degeneration.

The fact, abundantly showed by the tracings which were taken, that an artery on one side of the body might be dilated while its fellow was not helped to draw attention to the probability of vaso-motor nerve degeneration being an important factor in the causation of the circulatory failure, and before leaving Singapore I collected some material with the view of investigating this point.

Fig. 1 is from a specimen prepared from the arteria dorsalis pedis of a typical case of œdematous beri-beri, the patient dying with the usual symptoms of circulatory failure after a long illness. A (Fig. 1) is a portion of a long unstained fibre, occupying several fields of the microscope; it has the appearance of

FIG. 1.




a somewhat thick-walled, double-contoured tube, the contained cavities varying slightly in calibre and being apparently quite empty, except at its upper end, where it disappears into an indistinct granular substance, on each side of which the double contour of the tube is also indistinct. Here, outside the tube, is a granular mass, which has taken a slight purplish stain, with three very distinct nucleolated bodies at one extremity. The fibre, its course being traced, preserves approximately the same size; the central cavity, however, occasionally diminishes to a mere line, and then swells out again, as if the fibre were twisted on itself. B represents another tube with a purplish swelling, and numerous nuclei lying on the fibre. C shows at one extremity the fibre diminished to about half its size. Elsewhere it is twisted on itself; a thin line down the centre is visible in one portion of it, but the rest, save for a slight fibrous appearance, seems structureless. Such fibres were found in nearly all the preparations (twenty-seven in number) made from the connective tissue external to the tunica media of arteries from corpses of patients who have died from beri-beri. Clearly they are vaso-motor fibres, the axis cylinders of which have undergone complete degeneration.

Fig. 2 confirms this view. It was prepared from a bit of the arteries supplying the œdematous patch on the leg, as described in Case 14. From a mass of fat globules which obscure a bundle of nerve fibres issue a couple of degenerated fibres, one of which bifurcates. With a low power these fibres seem to be tolerably distinct; with a high power each is found to consist of a longitudinally arranged series of black-stained fat globules, of varying sizes, surrounded by wavy bundles of fibrous tissue.

The point to be observed in all the pulse tracings (and careful tracings were taken of all the fifty-two cases) was that, when the arm on one side was affected with œdema and on the other not, the pulse tracing taken from the radial on the affected side showed lower tension than the tracing from the healthy side. This is well seen in the pulse tracings published illustrating

FIG. 2.

Case 11; the higher rise, the rapid fall, and the exaggerated secondary waves show the much lower tension on the right side—i.e., the side which had recently been œdematous. Tracings taken on the day of this patient's discharge well showed that this difference had almost vanished.

The effect of the dilatation of one vascular area is, of course, to increase the flow of blood through that area and to lower the general blood pressure to an extent proportionate to the relative size of the dilated area. Further effects are œdema of the dilated area and increased loss of heat if the area be cutaneous. That such local dilatations do occur is abundantly shown by the above cases. The effects of widespread dilatation of the peripheral vessels, general œdema, general lowering of the blood pressure, and engorgement of the venous system and the right heart, with consequent cardiac dyspnœa, are also shown. The splanchnic area seems commonly to escape; but it appears justifiable to infer that in Cases 9 and 14 the sudden onset of diarrhœa, with concomitant great increase of the symptoms dependent on lowered blood pressure and ultimate death, was due to this area becoming affected. It would be of great interest in such cases to examine the vaso-motor nerves of this area. The temperature in Cases 3 and 5 illustrates the fact, often noted, that in cases in which this circulatory failure results in death the temperature towards the end is apt to fall very low, presumably from increased loss of heat from the surface. The temperature in Cases 2, 4, 6, and 10 illustrates a tendency to subnormal temperature in beri-beri patients, which has, I think, a different causation. These patients had very extensive muscular paralysis, with much wasting—i.e., their areas of heat-generating tissue were much contracted, so that they were unable to respond promptly to a demand for increased heat production, caused, for example, by a cold, wet day, or even by the normal low temperature of the early morning in the tropics. I have tried to trace a connexion between the occurrences of such subnormal temperatures and the daily temperatures in the wards, but my data were too few to show any very definite results. Certain, however, it is that beri-beri patients are very susceptible to cold; I soon learned that on a wet, cool morning the deaths in the beri-beri wards would be above the average, and that an abnormal proportion would be in a critical condition. This is more especially true of the œdematous cases.

It is usually stated that the causes of death in beri-beri are four in number—viz.: (1) cardiac failure; (2) œdema of the lungs; (3) respiratory paralysis; and (4) pericardial effusion. Respiratory paralysis certainly does occur, but as the main cause of death it is, I think, very uncommon. Cardiac failure seems to me to be the less important of the two factors concerned in bringing about a condition which is the real cause of death in the vast majority of fatal cases of beri-beri; and the other two alleged causes seem to be merely the results of this fundamental condition, excepting a few cases to be immediately mentioned. This condition is simply the sinking of the general blood pressure below the point necessary to maintain the circulation; the blood accumulates, therefore, on the venous side of the circulatory apparatus, the patient being, in fact, to quote a celebrated phrase, "bled into his own vessels" to a fatal extent. This process sometimes goes on till the heart simply ceases to beat because it is insufficiently supplied with blood to contract on and to nourish it; the

circulation, therefore, comes gradually to a standstill, the patient meanwhile showing all the classical symptoms of acute anæmia except the pallor, and at the necropsy ante-mortem clots in the heart bear eloquent witness to the chronicity of the process. Sometimes, however, the heart is more suddenly stopped by engorgement of its right side—a condition which may be temporarily relieved by bleeding. The main factor in producing this fundamental condition is, I think, inadequate peripheral resistance, due to extensive dilatation of the peripheral vessels; the great utility of digitalis is due to its stimulating influence on the walls themselves of the peripheral vessels, the comparative uselessness of strophanthus to the fact that it does not thus affect the vessels, only the heart; and the impotence of strychnine to the fact that the vaso-motor mechanisms through which it normally contracts the vessels are, in the cases I have been considering, out of gear. Cardiac failure is no doubt a factor in producing this fatal condition, sometimes even an important one. Pericardial effusion is one of the many results of vaso-motor paralysis; I much doubt whether it is ever of itself a cause of death. Œdema of the lungs is also in most cases due to the same cause which produces œdema elsewhere, and therefore not accurately to be assigned as a cause of death except in certain cases, of which I myself have seen very few, but on which Mr. Simon, whose experience of beri-beri is incomparably greater than mine, lays stress. In these cases œdema of the lungs may occur and result in death before the general blood pressure has sunk to a dangerous level, owing presumably to some local condition of the pulmonary vascular areas. It is pre-eminently in these cases that Mr. Simon's glonoine treatment often tides a patient over what would otherwise be a fatal crisis.

### TREATMENT.

*Diet.*—The addition, by my immediate predecessor in charge of the hospital, Dr. Leask, of three ounces of wheat flour to the dietary of the beri-beri patients was followed by a striking fall in the death-rate, which was maintained, more or less, up to September, 1891. It is tempting to regard these two facts as having the relation of cause and effect, and Dr. Takaki's success in abolishing the disease from the Japanese navy by modifying a previously insufficiently nitrogenous diet, simultaneously however with other sanitary reforms, supports this view.

*Environment.*—It is of course of paramount importance to remove the patient from the influence of the beri-beri miasm when this can be done; but even when it cannot, as at the Tan Tock Seng Hospital, certain measures may be adopted to minimise its evil influence. I found that after a beri-beri ward had been long in occupation its inmates began to do badly and the death-rate to rise. After emptying the ward, scrubbing the floor and beds with a corrosive sublimate solution and spraying the walls with the same, and then leaving it exposed to the sun and air for a few days (measures recommended by Pekelharing) it could be occupied for a month or six weeks before the recurrence of the same phenomena necessitated the repetition of the cleansing.

*Clothing.*—The provision of an extra blanket and of a flannel jacket for such of the patients as seemed likely to be endangered by cold was found very useful.

*Drugs.*—Drugs are mainly useful to tide over crises, for which purpose they are very valuable. A beri-beri patient with œdema (if not due to anæmia) lives in a state of unstable equilibrium, liable to the sudden onset of various crises, which may sometimes be tided over by suitable means. Glonoine (1 per cent. solution) was introduced several years ago by Mr. Simon for the treatment especially of œdema of the lungs in early cases; a hard pulse and the usual symptoms of lung œdema are the indications for its administration. It produces its effect by dilating the peripheral vessels generally, so relieving the gorged lungs. I found at the Tan Tock Seng Hospital that glonoine was habitually used in nearly every case of beri-beri with threatening symptoms, whatever the state of the circulation. Considering that in most of these cases excessive vaso-dilatation was the main cause of the symptoms, it would seem *a priori* that the drug should have been injurious; but I never could satisfy myself that it had done harm, and it certainly often did good, temporarily at any rate, even in such cases as Case 19—e.g., presumably by its action as a cardiac tonic. When the arterial pressure is approaching a dangerous level digitalis is an extremely useful agent, chiefly, I believe, because of its effect on the walls themselves of the peripheral vessels (*vide* Cases 12, 13, and 20). It is commonly asserted that cases in which there are dyspnœa, failing pulse, and lowered temperature always die. I have, however, seen a small number of patients presenting all these symptoms who recovered, thanks to the admirable way in which they were watched, and then digitalis or digitaline administered to them by Mr. Aeria. We found that the large doses of digitalis required soon deranged the stomach and were obliged to resort to digitaline hypodermically until my small private stock was exhausted. Strophanthus I found to be useless, or almost so, in cases in which digitalis was eminently useful, a fact which strongly confirmed me in the view that the latter drug produces its effect by its action directly on the peripheral vessels. In a different class of cases—convalescent patients who were suffering only from the resulting widespread muscular paralysis and wasting—liquor strychniæ, by the mouth or hypodermically in frequent small doses, seemed to be of some slight use.

*Addendum.*—The phenomena presented by a certain class of beri-beri patients, not illustrated by any of the above-recorded cases, so corroborate the views expressed as to the mode of death in beri-beri that it seems desirable briefly to describe them. In these cases œdema is a very marked feature, and as the disease pursues a very chronic course it attains extraordinary proportions; the whole body is intensely bloated, the features become almost indistinguishable, the scrotum and penis enormously swollen, and the legs and thighs attain double their normal girth, or more. This condition persists for months, the patient usually dying from some intercurrent disease, the water-logged tissues being of low vitality; sometimes asphyxia ends the scene, the patient being slowly drowned by the rising flood in the thorax. Post mortem the heart is found to be enormously enlarged and hypertrophied. In such a case the fall of blood pressure, due to widespread vaso-motor degeneration, has been prevented from attaining the fatal point by a compensating cardiac hypertrophy, so that the circulation is maintained until the results of the continuous leakage from the vessels—an effect of the vaso-motor paralysis which there is nothing to obviate—produces its inevitable though long protracted effect. In such a case the cardiac nerves must have escaped degeneration, so that the familiar signs of this condition will have been wanting in the history of the case, or, at any rate, if this condition ever did exist in any degree at an early stage it must have been recovered from.

## NEUROLOGICAL FRAGMENTS.

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(*Continued from p. 253.*)

### No. XII.

**ABSENT KNEE-JERKS IN SOME CASES OF PNEUMONIA.—INACTION OF THE INTERCOSTAL MUSCLES IN RESPIRATION WITH GOOD VOLUNTARY ACTION OF THE SAME MUSCLES, IN A CASE OF "LATENT PNEUMONIA."**

I HAVE recently found the knee-jerks absent in some cases of croupous pneumonia; absent in three, present in three others. Very likely the absence of these jerks in cases of pneumonia, or in some stages of it, has been noticed before.

I wish to draw attention to the case of a male patient aged twenty-three, whom I first saw on Dec. 1st with Mr. Herbert C. Wilkin, of Cornwall-road, in which case I did not discover by auscultation and percussion any signs of involvement of any part of either lung, although the temperature (105° F.), rate of respiration (44), and pulse (90) were of the pneumonic character and relation. The knee-jerks were absent. I think, as Mr. Wilkin did before I saw the patient, that the case was probably one of pneumonia, so-called "latent pneumonia"—some deep-seated patch in the lung. But I think, considering a symptom to be presently mentioned, that it was one of myelitis too, or at least that there was some very local morbid change in the thoracic spinal cord. I do not mean that there was pneumonia "complicated with" myelitis or some other morbid change of part of the central nervous system, as will be understood when I add that, since observing

the case of this patient, I have surmised that in cases of ordinary undoubted croupous pneumonia also there is some morbid change of the cord caused by pneumotoxin. I suggest that the central lesion is the cause of the non-pulmonary symptoms of pneumonia, the high temperature, rapid respiration, and infrequent pulse (infrequent, I mean, only in relation to the respiration rate). I do not think the local pulmonary inflammation would produce such symptoms in such relation.

There was in Mr. Wilkin's patient a symptomatic condition (so to say, a double one) which I have never observed before in any kind of case; no doubt I have overlooked it. The patient's intercostal muscles acted not at all during his ordinary (but very frequent) breathing (respiration proper), but they acted perfectly when he drew in his breath when told to do so (voluntary movement). During respiration proper, whilst, as said, the intercostals did not act, the diaphragm acted well, perhaps in too short excursions, and also frequently; in other words the breathing of this patient was solely diaphragmatic. (The lowest part of his chest everted in inspiration—respiration proper—but the diaphragm *by itself* can evert the lowest ribs.) In the voluntary movement the intercostals acted well and the diaphragm not at all so far as I could make out, the epigastrium sinking; that is to say, the voluntary movement was made as a healthy adult male would make it. We see that the fact that a patient can expand his chest walls well by his intercostals when told (voluntary movement) is no proof that the other, the true respiratory movement of them, is present; in Mr. Wilkin's patient there was loss of the automatic movement with persistence of the voluntary movement of the same muscles.[1]

The next day Dr. Barlow saw the patient with us. (Temperature, respiration, and pulse about the same as when I first saw him.) He confirmed the observations I made the previous day. I was particularly interested in his agreement that the intercostal muscles did *not act* in respiration proper, and that they *did act* in the voluntary movement of so-called "forced inspiration."

The patient did well; his knee-jerks returned. At no stage of his illness was there any other paralysis discovered than that signified by inaction of the intercostal muscles in respiration proper; these muscles on his recovery acted normally both respiratorily and voluntarily.

I infer, from the consideration of certain of Gaskell's most important researches, that in this patient the inaction of the intercostal muscles in respiration proper was owing to loss of function of lateral horns in the thoracic region of the cord; if so, the respiratory (medulla) centre (the lateral horns being, I presume, for respiration proper normally subservient to that centre) failed to effect anything upon the intercostal muscles, although it continued to act on some other of its subordinate centres of the cord, those which are for the immediate supply of the diaphragm. The voluntary service of the intercostals in drawing in the breath when told (so-called "forced inspiration") is of cerebral initiation; indeed, the word voluntary implies that. The fibres engaged in this voluntary service of the intercostals are, I suppose, some of the fibres of the pyramidal tract, which, evading the respiratory (medulla) centre, pass direct from the cortex cerebri to cells, not of the lateral horns, but to cells of the ventral part of the anterior horns, to those cells of those horns to which other fibres of the pyramidal tract go. (I think that during such voluntary, non-respiratory, services of the intercostals the respiratory—medulla—centre is inhibited by fibres from the cerebral cortex.)

The inaction of the intercostals in respiration proper—since I thought it owing to a very limited myelitis or other local morbid change of some part of the lateral horns, if not of more of the cord—makes me surmise, as has been already said, that in ordinary cases of croupous pneumonia, cases with discoverable local pulmonary disease, there is a very local central morbid change, if not of the lateral horns, as I suppose there was in Mr. Wilkin's patient, yet of some other parts of a cord district of which that tract is part. It may at any rate be worth while to search the cord and medulla microscopically of one who has died of pneumonia. We must bear in mind that Mott thinks that the intermedio-lateral tract is the visceral column. In later notes I shall reconsider the case of Mr. Wilkin's patient and suggest other possibilities.

[1] In a case of fracture dislocation crushing the cervical cord across below the emergence of the phrenic nerves the chest walls do not move either in respiration proper or in a non-respiratory (voluntary) service.

# AN INTERESTING CASE OF CEREBRAL HÆMORRHAGE.

BY HENRY T. BENSON, L.R.C.P. LOND., &c.

THE interesting points to my mind raised in this case were as follows: the extraordinary absence of symptoms pointing to the extensive lesion and the suggestion that a sudden jerking of the head backwards might have caused death.

The patient was a man forty-five years of age, a farmer, slenderly built, moderately temperate, and whose family history was good. On Dec. 9th he went to a shed to give a calf a drench; in doing so the calf plunged, and in trying to avoid it he suddenly threw his head backwards. I saw him on Dec. 11th, and found him suffering from intense pain and rigidity of the neck, with a few tender spots about the occipital region. The temperature, pulse, and pupils were normal, and with rest and light diet he appeared better. On Dec. 24th there was pain over the forehead, with tenderness over the same region, and also at a point half an inch below and two inches to the left of the occipital protuberance. The tongue was coated; the pupils were equal and responded both to distance and light, but showed some slight intolerance to light and sound. I looked for paralytic symptoms in the face, eyes, mouth, throat, and extremities without result. He had an uneasy feeling about the right arm, but I could not detect any motory or sensory impairment; the reflexes were normal, the pulse was well filled, regular, and not easily compressed, 80 per minute; the temperature was 99·2° F.; the heart was normal and the appetite fair; he was able to sleep from five to six hours at a time naturally; the functions were performed regularly; he was cheerful in his manner, but said he did not feel quite so well as he had been a day or two before. I saw him again on Dec. 26th at 8 A.M., and found he had just recovered from a fainting attack. The general condition was much the same as on the 24th, but the pulse was 90 and rather easily compressed; the temperature was 100° and the respiration 20; the pupils were sluggish and nystagmus was present. I ascribed his condition to straining during the passage of a hardened stool. He was conscious, but occasionally rambled. On taking the temperature about three-quarters of an hour later it had risen over a degree. There was muscular twitching. I attempted to make a diagnosis of "concussion by succussion." On Dec. 27th the patient was in a semi-comatose condition, the urine was voided at long intervals, and the bowels moved involuntarily. The pulse was 80 and the temperature 102°. He had delirium of a low muttering form. On the 28th his condition remained unchanged. The urine was examined and was found to be free from sugar and albumen. On the 29th he was less delirious, but the twitching continued. The temperature was 101°. The patient was still very drowsy. On the 30th he appeared better. The pulse was fairly good as regards volume and compressibility, and he was less drowsy. The temperature was 100°. On the 31st his condition was the same as on the previous day. The temperature was 98·8° and the pulse 85. He was conscious and resting well. The natural functions were performed consciously, and he had not rambled since the day before. On Jan. 1st the temperature was normal and the pulse regular—80. The twitching and nystagmus had ceased. He spoke rationally and expressed himself as feeling better. On the 2nd there was no change. On the 3rd he had severe convulsion and suddenly became comatose. On Jan. 4th he died. At the necropsy, on Jan. 8th, there was no external injury or post-mortem staining. The body was well nourished. A transverse incision was made from ear to ear, and a longitudinal incision along the spines of the vertebræ, the skin and fascia were reflected to expose the muscles of the neck. The trapezius was normal and reflected. The splenius and sterno-mastoid were normal. The splenius was divided and reflected. The complexus was normal. There was no injury to any of the muscles. The cervical spine was cleaned; there was no lesion. The external ligaments appeared normal. The spinal column was opened from the second to the ninth vertebræ. The cellular tissue between the medullary sheath and the ligaments lining the spinal column were deeply stained with extravasated blood. The blood was extravasated in the subarachnoid space. There was a laminated diffuse clot in the portion corresponding to the second, third, and fourth cervical vertebræ. There was slight subaracnoid effusion along the longitudinal fissure of the brain. On the right side there was a very superficial subarachnoid clot overlapping the frontal

convulsion. From the back of the spinal cord the clot could be traced over the medulla oblongata, the base of the cerebellum, and the base of the brain. The clot extended into the left lateral ventricle. In the anterior left lateral lobe of the brain there was a laceration containing a clot, and the lacerated surface was slightly softened, communicating with the longitudinal fissure. There was no evidence of any disease in the surrounding parts of the brain. The laceration in the anterior portion of the left lobe of the brain appeared to be a continuation of the fissure of Sylvius, and may have been due to softening. The thorax, heart, and lungs were normal and healthy. All the organs in the abdominal cavity were healthy.

Market Deeping.

# THE RESULTS OF RADICAL OPERATION FOR MALIGNANT DISEASE OF THE LARYNX, FROM THE EXPERIENCES OF PRIVATE PRACTICE.

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*(Continued from p. 1419.)*

IN the following tables no column is devoted to the duration of the disease, because evidence on this point in a number of the cases operated upon was of an unsatisfactory or at least very uncertain character, and I do not wish to possibly allow erroneous opinions to be formed from the uncertain answers of the patients themselves. On the whole, it may be said that the minimum of time which elapsed between the first symptom—almost always hoarseness—and the performance of the radical operation was two months, and the maximum, in one exceptional case (No. 6. of the tables) two years. Most cases, however, came to operation during the first year of the disease. The results of these tables are as follows:—

1. *Nature of operations and proportions of recovery.*—Out of twelve cases in which radical operations were performed the method was as follows:

| | Cases. | Recoveries. | Deaths. |
|---|---|---|---|
| Partial extirpation of the larynx... | 3 | 1 | 2 |
| Thyrotomy with resection of portions of cartilage ... ... ... ... | 4 | 4 | — |
| Thyrotomy with removal of soft parts only... ... ... ... ... ... | 4 | 2 | 2 |
| Subhyoid pharyngotomy with removal of soft parts only ... ... | 1 | — | 1 |
| Total... ... ... ... ... | 12 | 7 | 5 |

If it be assumed that the two cases in which the malignancy was doubtful (more on this point further on) actually were of a malignant nature it will be seen that 5 patients died from the consequences of the operation and 7 recovered, a result which, though at first sight apparently not very brilliant, must be considered eminently satisfactory, as it means the saving of fully 58·3 per cent. of the patients from an otherwise inevitable death. This is certainly a most encouraging advance in our treatment of malignant disease of the larynx, and so far as my knowledge goes it very considerably surpasses the results hitherto recorded. Nor, indeed, did these 58 3 per cent. represent the full measure of success that ought to have been obtained. In 2 of the fatal cases (Cases 4 and 6 of the tables) death was due, as will be shown later, to preventable complications in no way necessarily connected with the operative procedure itself, and had these complications been avoided the proportion of successes in my 12 cases might actually have been brought as high as 66 6 per cent. If, on the other hand, it be assumed that Case 11, the most doubtful one of the tables, was not a case of actual malignancy we should have 11 cases with 6 recoveries, or 54 per cent. of recoveries; and if, finally, Case 12 be also struck out of the list there would be 10 radical operations, 5 of which were successful, giving 50 per cent. of recoveries. Even this result, so far as I know, is much more favourable than the outcome of any previous statistics would show.

2. *The question of recurrence.*—The gross result shown in the foregoing paragraph becomes even more important and pleasing when the question of recurrence is considered. Up to the present moment it is almost universally believed that even if radical operation in malignant disease be for the moment successful a recurrence of disease within a comparatively short time is an almost unavoidable contingency. My results give the most emphatic and incontrovertible denial to this belief that could be desired. It will be seen from the following tables that in Case 1 the duration of life after operation was six and three-quarter years, the patient finally dying from organic heart disease entirely unconnected with the previous laryngeal affection. In Case 3 the operation was performed five and a half years ago; the patient lives in the best of health, no recurrence having taken place. In Case 5 the operation dates three and a half years back; the patient enjoys the best of health, with no recurrence of the disease. In Case 8 the operation was performed two and a half years ago; the patient at present is perfectly well, with no recurrence of the disease. Case 10 is the only one in which recurrence appears to have taken place, although this cannot yet be stated with absolute certainty. Fears with regared to that point were entertained from the moment of the operation itself owing to the great extent of the disease. If the two doubtful cases, Cases 11 and 12, be also considered in this connexion, the last of them, although the patient is at present perfectly well, has been performed at too recent a date to allow of any conclusions being made with regard to recurrence; but in Case 11 it is now nearly a year and a half since the operation was performed, and there is no trace of recurrence. It will not be questioned, therefore, I think, that with regard to recurrence my results are of the most encouraging character possible, and this the more so if it be considered that most of them have been obtained by operations which only a few years ago were believed by those most competent to judge to be altogether insufficient to eradicate the disease.

3. *Phonatory results.*—Equally pleasing and, indeed, surprising are the results which were obtained so far as phonation is concerned, and although there can be no doubt that these results are entirely secondary to the more important questions of preservation of life and absence of recurrence, yet the question of a useful voice for the rest of life is one certainly not to be treated lightly, particularly in the case of men whose power of breadwinning entirely depends upon the possession of their vocal powers. Now with regard to this point, from the tables it appears that in two only out of the seven cases in which recovery took place no improvement of the voice was obtained. These are Cases 2 and 11 of the tables, but it must not be forgotten that in both these cases there had been total aphonia *previously* to the operation. In the remaining five cases the vocal result was simply surprising. In Case 1 (that of the late Mr. Montagu Williams) it is well known that for five years and a half after the operation—i.e., until the time when his progressive heart affection compelled him to give up work altogether—he was able to fulfil the trying duties of a police magistrate, and this although the whole left half of the thyroid cartilage, the left arytenoid cartilage, and all the soft parts on the left side of the larynx had been removed. In Case 5 the voice, in spite of the removal of all the soft parts on the left side of the larynx, including the left vocal cord, became so perfectly normal that on both the occasions when I demonstrated the patient publicly (once before the Clinical Society of London and once before the Laryngological Society of London) it seemed almost incredible to many in the audience that the possession of such a voice should be compatible with the absence of all these essential parts. Almost equally good results were obtained in Case 8 in spite of the removal of the whole left vocal cord and the front part of the left arytenoid cartilage; and in Case 10 the amount of voice, although it is hoarse, is positively surprising when it is considered that not only all the soft parts on the right side of the larynx but also the anterior half of the left vocal cord had to be removed. In Case 12, finally, in which the entire left vocal cord was removed, the voice, although occasionally a little hoarse and weak, is such that nobody who heard the patient speak would think of the absence of so essential a part of the vocal apparatus. It appears to be a benevolent provision of nature that in the cases in which a vocal cord with its neighbourhood is removed, a cicatricial ridge should form just corresponding to the situation of the removed vocal cord, which enables the healthy vocal cord to almost completely close

the glottic aperture on phonation, and thereby to render the voice completely normal, or at least nearly so. My experiences in this respect entirely agree with those of other observers.

4. *Analysis of causes of death.*—It has already been observed that in two cases death was due to preventable causes. In Case 4 a quantity of milk which was administered through an œsophageal feeding-tube entered into the air passages, and although in part it was rejected through the wound, through the mouth, and through the tube with violent coughing, there can be hardly any doubt that some of it remained in the lower air passages and set up septic pneumonia, to which the patient succumbed on the second day after operation. It will be seen hereafter in the description of the operation that feeding through an œsophageal tube is now almost entirely discarded in my practice after these operations.—Very lamentable was the cause of death in the second case belonging to this class (Case 6 of the tables). In this case the patient, whilst very anxious to undergo the operation, would under no circumstances permit the use of chloroform because he had been supposed to have a weak heart, and because he had on a previous occasion been strongly warned against chloroform anæsthesia. His family shared his objection. The operation having thus to be performed under ether, I was unfortunately persuaded to allow that drug to be throughout administered per rectum, it being urged that this form of administration allowed of the additional advantage of the anæsthetist being entirely out of the way of the operator. More than half an hour, however, elapsed before the patient was so much under the influence of the drug that I could begin the operation itself. Very large quantities of ether had to be used, and when the operation was finished the patient looked very white and the pulse was very irregular. He also towards the end of the operation coughed up considerable quantities of fluid watery blood, the appearance of which was totally different from the expectoration sometimes met with in cases in which no complete occlusion of the trachea has been obtained. This expectoration continued, and three hours afterwards copious bloody discharges took place from the rectum, which in appearance were absolutely the same as the bronchial expectoration, and only in addition very offensive. Within a few hours after the operation the temperature began to rise, the patient perspired profusely, and gradually became more and more comatose. With increasing coma, a temperature of 107° F., and continuance of the bronchial and rectal secretions, the patient died twenty-four hours after the operation. From the post-mortem examination, made by Dr. James Taylor, I quote the following important passages: "The large intestine, having been removed, was slit up; throughout its whole course the mucous membrane was very much congested and there were patches of ecchymoses. This appearance was most intense for about twelve inches below the ileo-cæcal valve, where the congestion was extreme and the hæmorrhagic patches of considerable size; they gave a rough, irregular appearance to the surface. This appearance diminished gradually downwards and the rectum itself had no unusual appearance of congestion." Passing over the description of the condition in the small intestine, the duodenum, the jejunum, ileum, and stomach, in each of which parts similar conditions existed, only to a lesser degree, I proceed to the description of the respiratory passages: "The surface of the lungs presented no abnormal appearance except a slightly darker red colour at the bases; there was no consolidation to be made out and no œdema; they were crepitant throughout. On slitting up the bronchi the internal surface was found to be of a dark red colour, due to the presence of intense congestion with numerous small hæmorrhages. Washing with water made this appearance more manifest, but did not remove any of the material which gave rise to the discolouration. The same condition was present in both lungs and extended into the smallest bronchi which were examined." No further abnormal conditions were found, and there can, unfortunately, be no doubt that death was due to bronchitis and inflammation of the bowels caused by the ether. I have given so full a description of the circumstances which caused the death of this patient—firstly, as a warning to others; and, secondly, because from it it is quite evident that the operation itself can in no way be held accountable for the sad issue of this case.—With regard to the causes of death in the four remaining cases the following is to be stated. In Case 2 of the tables the patient only decided upon having the operation performed when the disease was already very extensive, and had, in fact, made its way through the cartilaginous framework of the larynx to the outside, where it appeared as a flat tumour inseparably connected with the thyroid and cricoid cartilages. The operation had to be correspondingly extensive, and its shock was considerable. On the second day double pneumonia, evidently of a septic type, set in, and the patient died on the third day. Reviewing the circumstances I do not see how this death could have been prevented. In the next case (Case 7 of the tables) the cause of death remained perfectly obscure, in spite of a very careful post-mortem examination. It is true that œdema and intense congestion of the brain were found, but no evidence was forthcoming to show how these conditions had been produced. I have, in conjunction with Mr. Shattock, given a very full description of this case in the current volume of the Transactions of the Pathological Society,[1] and must refer those interested in the various possibilities which had to be taken into consideration (collapse, cerebral hæmorrhage, iodoform poisoning, shock of the operation, acute septicæmia) to their full discussion in the original. To me the cause of death in this case appears as mysterious at the present moment as it did at the time. No such mystery exists with regard to the cause of death in the next and last case (Case 9 of the tables). In this case the patient, besides being seventy-two years of age, which *ipso facto* renders the performance of a major operation on the air passages a serious undertaking, had suffered from extensive chronic bronchial catarrh of many years' standing. The risks of the operation were not concealed from him in a consultation which took place between Sir William Broadbent and myself. There could, however, be no doubt that the operation gave him the only chance of escaping an otherwise unavoidable fate, and the patient himself decided in its favour. Unfortunately he was a terribly nervous subject; it was positively impossible to keep him quiet after the operation, his bronchitis became slowly but constantly worse, and in the middle of the sixth day after the operation cardiac syncope took place. His death exemplifies the combination of two of the greatest dangers of these operations: great old age with a pre-existing bronchial affection.—On analysing the six causes of death we thus find: septic pneumonia, 2 cases (1 of them due to entrance of food into the air passages); general sepsis (?), 1 case; bronchitis and cardiac syncope, 1 case; death from ether, 1 case; fully unexplained, 1 case. It must be hoped that in future operations such etiological factors as ether-death and entrance of food into the air passages may no longer appear in the list of causes of fatal terminations, whilst it will be difficult, if not impossible, to exclude the others named.

5. *Doubtful cases.*—In 2 of my cases (Cases 11 and 12 of the tables) the clinical and histological evidence are somewhat at variance with one another, and as it is just in this class of cases that the heaviest responsibility is incurred by the operator I think it desirable to give the essential features of both in order to enable my readers to form an independent judgment of their own. In the first case (Case 11 of the tables) the patient was aged sixty-three years. An ill-defined papillary growth occupied the anterior half of the right vocal cord, the anterior commissure, and the front part of the left vocal cord. The disease had commenced several months previously and the voice was quite aphonic. No other symptoms were present. I repeatedly removed fragments of growth with cutting laryngeal forceps, which on histological examination by Mr. Shattock were found to be apparently papillomatous, but distinguished by very unusual thickness of epithelium, which gradually became more and more horny as subsequent pieces were removed and examined, there being at the same time an increasing quantity of small round cells visible in the specimens. Considering the patient's age and the enormously quick recurrence of the growth after each operation, I entertained serious fears as to its malignancy, which were shared by Mr. Shattock, and it was, indeed, on his urgent recommendation that radical operation was decided upon, Mr. Butlin also having in consultation urged the desirability of not postponing too long what seemed unavoidable. The operation was performed on July 12th, 1893, and the front part of both vocal cords and the anterior angle of the thyroid cartilage, which appeared to be infiltrated, were removed. From my notes, taken immediately after the operation, I quote the following significant passage: "Macroscopically the four pieces removed showed very considerable differences, one of them

[1] Vol. xlv., 1894, p. 26 et seq.

## CASES OF RADICAL OPERATION IN MALIGNANT DISEASE OF THE LARYNX, 1886-1894.

### (*a*) CERTAIN MALIGNANCY.

| Case. | Occupation of patient. | Sex. | Age. | Sent by or seen with. | Part of larynx affected and laryngoscopic appearances | Symptoms. | Nature of growth (microscopic examination made by). | Date of operation. | Operator. | Method of operation. | Parts removed. | Result of operation. | Last seen or heard of. | Described in. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Barrister. | Male. | 52 | Sir James Paget and Professor Eugen Hahn (Berlin). | Left ventricle of Morgagni; laryngoscopically the left vocal cord appeared embedded in a greyish-white warty tumour. | Almost complete aphonia. | Squamous-celled carcinoma (Mr. Shattock). | May 3rd, 1886. | Professor Hahn. | Partial extirpation of the larynx. | Left half of thyroid cartilage, left arytenoid cartilage, all the soft parts on left side of larynx. | Complete and lasting recovery, with such good voice that patient for nearly six years after the operation was able to fulfil the duties of a police magistrate. | Patient died in December, 1892, 6½ years after the operation, from organic heart disease. No recurrence of cancer. | Transactions of the Clinical Society, vol. xx., 1887, p. 44, and Brit. Med. Jour., Dec. 31st, 1892, p. 440. |
| 2. | Merchant. | Male. | 53 | Sir William MacCormac. | Infiltration and immobility of whole right half of larynx except epiglottis. | Nearly complete aphonia. Occasional shortness of breath. | Squamous-celled carcinoma (Mr. Shattock). | November 1st, 1887. | Sir William MacCormac. | Partial extirpation of larynx. | Whole right half of larynx and carcinomatous insula on left vocal cord. The disease was found to have spread to the outside of the larynx. | Death on the third day after operation from double septic pneumonia. | — | Transactions of the Pathological Society, vol. xxix., 1888, p. 38. |
| 3. | Mother Superior of a convent. | Female. | 53 | Dr. Sandford (Cork), Mr. Butlin, and Dr. Prosser James. | Greyish, warty tumour occupying anterior commissure and anterior thirds of both vocal cords. | Almost complete aphonia. | Epithelioma (Mr. Butlin). | May 16th, 1889. | Mr. Butlin. | Thyrotomy. Resection of small part of thyroid cartilage. | Larger part of both vocal cords (except hindermost ends) and soft parts around them. Front part of thyroid cartilage. | Recovery, but no return of voice. Well five and a half years after operation. | Letter from Dr. Mac Mahon of Cork, Nov. 3rd, 1894. No recurrence. | Hitherto unpublished. |
| 4. | Merchant. | Male. | 62 | Mr. Butlin. | Infiltrating tumour occupying whole right half of larynx except epiglottis. | Complete aphonia. | Epithelioma (Mr. Butlin). | June 9th, 1890. | Mr. Butlin. | Thyrotomy. | All the soft parts on right side of larynx, including right arytenoepiglottic fold. | Death on the second day after operation from septic pneumonia. (Probably entrance of milk into air-passages.) | — | Hitherto unpublished. |
| 5. | Commercial traveller. | Male. | 40 | Mr. Power (Gloucester) and Mr. V. Horsley. | Warty ulcerated growth occupying left ventricle of Morgagni and left ventricular band. | Considerable hoarseness. | Squamous-celled carcinoma (Mr. Shattock). | June 2nd, 1891. | Dr. Semon. | Thyrotomy. | All soft parts on left side of larynx, including left vocal cord. | Recovery, with excellent, in fact normal, voice. Formation of cicatricial ridge doing duty for removed vocal cord. No recurrence. | Letter in July, 1894. Perfectly well. | Transactions of the Clinical Society, vol. xxv., 1892, p. 300, and Proceedings of the Laryngological Society of London, March 14th, 1894. (On both occasions demonstration of patient.) |
| 6. | No occupation. | Male. | 58 | Mr. Kendal Franks (Dublin), Mr. Butlin, and Mr. Horsley. | Infiltration of left half of larynx (except epiglottis) and beginning affection of right side. | Complete aphonia. | Squamous-celled carcinoma (Mr. Shattock). | July 19th, 1891. | Dr. Semon. | Partial extirpation of larynx. | Left half of thyroid cartilage and left arytenoid cartilage with corresponding soft parts. Resection of front part of right half of thyroid cartilage and corresponding soft parts. | Death twenty-four hours after operation from effects of ether, which had been administered per rectum. Intense bronchitis and inflammation of greater part of intestinal tract. | — | Proceedings of Laryngological Society of London, October, 1893, p. 26. |
| 7. | No occupation. | Male. | 44 | Professor Massei and Dr. Malbrane (Naples), Dr. de Havilland Hall, Mr. Horsley, and Mr. Butlin. | Pedunculated tumour (apparently angiomatous) on left arytenoepiglottidean fold. | Pricking sensations, discomfort in swallowing, choking fits. | Villous carcinoma (Mr. Shattock and Morbid Growths Committee of the Pathological Society of London). | Oct. 1st, 1891. | Dr. Semon. | Subhyoid pharyngotomy. | Left arytenoepiglottidean fold. | Death at the end of the fourth day after operation from sepsis (?); œdema, and intense congestion of the brain. | — | Transactions of the Pathological Society, vol. xlii., p. 37, vol. xlv., p. 26; Internationales Centralblatt für Laryngologie, &c., vol. viii., p. 317; New York Med. Journal, 1894, June 2nd, and Sept. 1st; Proceedings of Laryngol. Society of London, October, 1893, p. 25. |
| 8. | Clergyman. | Male. | 59 | Dr. Lawford Knaggs. | Bipartite growth on | Slight | Cavernous | June 26th, | Dr. Semon. | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8. | Clergyman. | Male. | 59 | Dr. Lawford Knaggs (Huddersfield), Mr. Arthur Lucas (Woburn), Mr. Horsley. | Bipartite growth on posterior end of left vocal cord, the mobility of which was slightly defective. | Slight hoarseness. | Cavernous fibro-sarcoma (Mr. Shattock). | June 25th, 1892. | Dr. Semon. | Thyrotomy. Resection of part of arytenoid cartilage. | Removal of left vocal cord and front part of left arytenoid cartilage. | Recovery with excellent voice. Formation of cicatricial ridge as in previous case. No recurrence. | March 14th, 1894. Perfectly well. | Proceedings of Laryngological Society of London, March 14th, 1894, p. 50 (demonstration of patient). |
| 9. | Merchant. | Male. | 72 | Sir William Broadbent, Mr. Horsley, and Mr. Butlin. | Tumefaction and immobility of left vocal cord. | Hoarseness (chronic bronchial catarrh of many years' standing). | Squamous-celled carcinoma (Mr. Shattock). | Feb. 22nd, 1894. | Dr. Semon. | Thyrotomy. | Disease much more extensive than had appeared from laryngoscopic examination. Extension into the subglottic cavity and (to a slight extent) to the right side of the larynx. Removal of all the soft parts over the diseased area and its neighbourhood. | Death on the sixth day after operation from aggravation of the pre-existing chronic bronchial catarrh and final cardiac syncope. | — | Hitherto unpublished. |
| 10. | Solicitor. | Male. | 54 | Mr. Butlin, Mr. H. T. Crosby, and Dr. W. Gripper (Wallington). | Tumefaction of right ventricular band and right vocal cord, with immobility of the latter. | Almost complete aphonia. | Squamous-celled carcinoma (Mr. Butlin). | Aug. 18th, 1894. | Dr. Semon. | Thyrotomy and partial resection of cricoid plate. | Disease much more extensive than apparent from laryngoscopic examination. Removal of all the soft parts on right side of the larynx (also below the right vocal cord) and of a considerable portion of the right half of the cricoid plate, which was found to be infiltrated. The anterior half of the left vocal cord had also to be removed. | Recovery with surprisingly good voice. Although hoarse, it is much stronger than it was before the operation. Four months after operation very suspicious swelling occupying seat of operation, and considerable dyspnœa. | Dec. 14th, 1894. Recurrence probable. | Hitherto unpublished. |

### (*b*) DOUBTFUL MALIGNANCY.

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11. | Bank employé. | Male. | 64 | Mr. Drake and Mr. Leedham Fuller (Brixton-hill), Mr. Butlin, and Mr. Horsley. | Ill-defined papillary growth in anterior commissure and on anterior ends of both vocal cords. Almost immediate return after intra-laryngeal removals. | Complete aphonia. | Papilloma with a thick epithelial investment of the stratified squamous-celled variety and considerable amount of small-celled infiltration of the connective tissue (Mr. Shattock). | July 12th, 1893. | Dr. Semon. | Thyrotomy. Resection of front part of thyroid cartilage. | Whole diseased area and front part of thyroid cartilage, which appeared somewhat infiltrated. | Recovery and no recurrence, but a slight degree of laryngeal stenosis and no improvement of voice. | Letter, Oct. 10th, 1894. Perfectly well. | Proceedings of Laryngological Society of London, May 9th, 1894, p. 104 (demonstration of patient). |
| 12. | Colonel | Male. | 54 | Dr. W. M. Ord, Dr. A. Bronner (Bradford), Mr. Horsley, and Mr. Butlin. | Gradual uniform tumefaction, extending over a whole year, from what originally was a small sessile outgrowth in the middle of the left vocal cord, with slightly deficient mobility of the latter. | Very considerable hoarseness. | Either soft continuous fibroma of the nature of fibroma molluscum or fibro-sarcoma (Mr. Shattock). | April 26th, 1894. | Dr. Semon. | Thyrotomy. | Entire left vocal cord, which was found very much tumefied, especially in its middle third, and granular, but not adherent to neighbouring parts. | Recovery with good voice (formation of cicatricial ridge). No recurrence so far. | Seen on Nov. 19th, 1894. Perfectly well. | Proceedings of Laryngological Society of London, May 9th, 1894, p. 106 (demonstration of patient). |

being to all appearance a simple pedunculated papilloma, such as previously removed by me on different occasions, whilst in two of the other fragments the growth was sessile, apparently of an infiltrating character, and looked entirely like commencing malignant disease." To my great surprise, however (which I think was shared by himself), Mr. Shattock did not find any evidence of malignancy in the pieces of growth removed by the radical operation. I append his report *verbatim*: "The pieces of tumour examined comprise portions removed by intra-laryngeal operations on three different occasions and those removed at a fourth by thyrotomy. In regard to those removed on the first three occasions none show any ulceration or cell nests, and they all present the characters of papilloma with a thick epithelial investment of the stratified squamous-celled kind. The section of the chief piece, removed at the fourth operation, and which is carried exactly at right angles to the surface and transversely to the length of the thyro-arytenoid muscle, shows a growth which, though sessile, has the same characters; there is the same absence of ulceration, but there is a considerable amount of small-celled infiltration of the connective tissue; the muscle, of which there is a large area, is quite normal. Although, however, there is small-celled infiltration of the connective tissue, there is no epithelial ingrowth, the general line of the deep surface of the epithelium between the papillary processes being almost straight. It cannot be said, therefore, that the disease is malignant, though the patient's age (sixty years) is such as to indicate free removal of the growth. The rapid recurrences must be regarded as pointing to a 'local predisposition,' and not as arising by a true process of metastasis." The possibility, of course, must not be lost sight of that just such parts of the growth as would have shown undoubted evidence of malignancy were not included amongst the portions which were microscopically examined. This, however, needless to say, is extremely unlikely when the examination has been made by an expert of Mr. Shattock's thoroughness; and I merely mention this possibility because in more than one instance detailed in my own collective investigation in the *Centralblatt für Laryngologie* this contingency has actually happened. Seeing, however, the very definite opinion expressed by Mr. Shattock in the above report it would seem more likely that the clinical course in this case was, indeed, deceptive, and that the growth, although distinguished by several unusual characters—uncommon density of epithelium and infiltration of small round cells,—must not be considered as a malignant growth. I cannot say that I regret having performed radical operation in this case. I probably, as a laryngologist, shall not be suspected of an undue partiality for external *versus* internal laryngeal operation in cases of growths of the larynx; but I deliberately say that it is better to perform a thyrotomy in a suspicious case, though possibly internal measures would have sufficed, than to postpone radical operation until it is too late or until it has to be so extensive as to jeopardise the patient's chances of survival of freedom from recurrence and of usefulness of the vocal organ. More on this all-important point will be found in the concluding portion of this paper.

The second case (Case 12 of my tables) was that of a man aged fifty-five years, first seen on April 29th, 1893. The patient had been suffering from hoarseness for about a month past, and a small reddish growth was observed on the free margin and underneath the middle of the left vocal cord. It was semi-globular, about the size of a split pea, slightly granular and broad based, so as to pass over very gradually into the congested left vocal cord, the movement of which was unimpaired. There was at first nothing to suggest malignancy, but in the course of the next twelve months the growth gradually spread, infiltrating more and more the left vocal cord, with which it became intimately blended, and finally, in April, 1894, an almost uniform thickening of the whole vocal cord had taken place, the movements of which also had become a little more sluggish. From the uniform nature of the infiltration it was quite impossible to remove a piece for microscopic examination. The whole development, however, taken in conjunction with the patient's age, rendered the nature of the growth very suspicious, and after consultation with Mr. Butlin thyrotomy was performed on April 26th of this year. When the larynx was opened the left vocal cord appeared as a cylindriform, slightly irregular, and granulated body, which was much thickened, especially in its middle third, but not adherent to parts in the neighbourhood. It was removed *in toto* and the basis scraped. Of the microscopic appearances Mr. Shattock gives the following full description: "The sections of the parts removed, carried at right angles to the surface and transversely to the long axis of the growth, show a general basis of connective tissue type in which there is extensive leucocytic infiltration. The leucocytes are especially collected into groups, and in one situation lie clustered around a mucous gland. The epithelium presents nothing noteworthy; at one small spot it is destroyed and a slightly prominent mass of granulation tissue projects through the defect. As observed, between the areas of the denser infiltration the general basis-substance has the following characters: It consists of a well-marked fibrillar material, in which lie the oval nuclei of cells; the nuclei are nowhere very close, they are vesicular and have a granular character, as those of cells of the connective tissue type. The whole is abundantly pervaded with capillaries. Histologically the new formation resembles a soft fibroma of such a diffuse or continuous kind as is presented by some examples of fibroma molluscum of the skin. It resembles also some forms of locally recurrent tumours which must be classed as sarcomata, in which a fibrous metaplasia has taken place. I have examined such a recurrent tumour of large size in which there is an equally abundant formation of fibrous matrix and of an equally delicate fibrillar character. Histologically the evidence is insufficient to determine on which side of the border-line the growth should be classed; this must be decided by the clinical history. The original appearance of the lesion as a distinct projecting tumour would exclude this diffuse formation from such as are designated elephantiasis arising from repeated inflammation; nor is there clinical evidence of inflammation having played the essential part in its etiology. The small-celled infiltration, which is especially marked in the situation of the ulcer, is probably due to infection through the epithelial defect, and a condition superadded to, and not concomitant with, the growth of the new formation."

From this description it will be seen that Mr. Shattock leaves the diagnosis open between continuous fibroma and fibro-sarcoma. My readers will have to decide the question according to their own judgment; personally, I can only say that a clinical course such as that observed in this case appears to me irreconcilable with the idea of the new growth being benign. Not only have I never seen a simple fibroma take a development such as occurred in this case, but I do not know of any reliable instance of that sort having been described in literature.

*(To be continued.)*

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### POISONING BY MANCHINEAL.

BY DUNCAN JAMES CADDY, M.D. DURH., F.R.G.S.,
H.M. COLONIAL MEDICAL SERVICE.

ON June 2nd, 1894, a native female child five years of age was admitted to the hospital, Carriacou, West Indies, under the following circumstances. The mother stated that the child had been playing the previous evening with some other children by the seashore, when she suddenly came running home screaming and complaining of severe pains in her mouth and abdomen. She was violently sick, but could swallow no food or water, and passed a very bad night, shouting out loudly at times and being very restless. Early the following morning the mother brought the child to the hospital, and, upon my questioning her, said the child had been poisoned by manchineal, having eaten some whilst at play under the trees. Upon examination I found the child in a state of collapse. The surface of the body was bathed in a cold sweat; the radial pulse was imperceptible; the heart sounds were hardly distinguishable; the inspirations were thirty per minute (very shallow); the temperature was 96·2° F. The lips were very swollen and covered with blisters, and the tongue greatly swollen and blistered. There were blisters in the palm of the right hand and three small ones in the left palm. On palpation the abdomen was very tender, especially over the epigastric region. I at once

ordered the child to be placed in bed and surrounded by hot water bottles, and injected subcutaneously twenty-five minims of sulphuric ether. The child gradually rallied, and the after treatment consisted in washing the mouth out with glycerine of borax and the administration of the following mixture: Ten minims of tincture of opium, half a drachm of bromide of potassium, half a drachm of chlorate of potassium, one drachm of bicarbonate of soda, one drachm of subnitrate of bismuth, one ounce of acacia mucilage, water to two ounces. One drachm of the mixture was allowed to trickle down the throat, a few drops at a time, every two hours. An enema, consisting of one drachm of brandy, two drachms of starch, and three ounces of beef-tea, was given, but as this appeared to distress the patient it was discontinued, and zyminised nutrient suppositories substituted every four hours. On July 4th the temperature rose to 101°, and as the patient was unable to swallow even a few drops of water the mixture had to be discontinued and hypodermic injections of morphia (one-fifteenth of a grain) given every five hours, whilst to cope with the thirst an enema of cold water was given every two hours, which gave great relief to the patient. On the 6th there was a decided improvement, and this continued up to the 18th, when the patient was discharged well.

H.M. Hospital, Carriacou, West Indies.

## ICHTHYOL IN ECZEMA.

By J. K. TOMORY, M.B., C.M. EDIN.

THE patient first came under my care in July, 1894, when I obtained the following history. About three years previously she showed symptoms of an eczematous eruption on the back of the neck, which gradually spread up to the scalp amongst her hair. She had the hair on the back of her head cut short, and the medical man whom she consulted prescribed an ointment for local application, as well as Fowler's solution to be taken internally. From that time she had never been entirely free from the eruption, and she had taken a considerable quantity, doubtless, of the usual remedies, but the eczema had never quite disappeared, though at times (especially when she was pregnant) it was less troublesome than at others. There is no trace of the disease in other members of her family. The eczema was very much worse in the spring. She had repeatedly taken arsenic and had applied starch poultices and a creamy looking ointment to the eruption. In July she consulted me, when I told her to have her hair cut again, and after one application of a starch and boracic poultice I ordered the following ointment to be applied night and morning: one ounce of ointment of oleate of zinc, half an ounce of ointment of oleate of mercury (20 per cent.), boracic acid ointment to six ounces; and prescribed half an ounce of this mixture to be taken after food: one ounce of the compound syrup of hypophosphites, forty-eight minims of Fowler's solution, water to eight ounces. The ointment allayed the itchiness, but otherwise it did not improve her condition. In September she consulted me again and I resolved to try ichthyol. I obtained a supply of camphoid ichthyol and gave the patient the following instructions (at this time I may say that there were considerable inflammation of the skin at the back of the neck and numerous patches of eczematous eruption extending beyond the occipital protuberance): the head and neck were to be well washed with soft soap to remove any of the previous ointment, and at night a starch poultice was to be applied. The next morning the ichthyol was to be applied, and it was to be renewed once a day. On the day preceding the application I ordered her to have her hair well brushed, and this has been done every day since. There was absolutely no other treatment given, and by the end of a month the skin of the neck was quite normal, and only one or two small spots could be seen on her head. By Nov. 10th she was absolutely free from all traces of the eczema, and has continued so ever since, but she keeps a supply of the ichthyol in order to apply it should any reappearance of her trouble manifest itself.

I have had considerable experience in the treatment of eczema, but I never had a case so intractable. In fact, I have been able usually to check it by means of the following lotion: two ounces of oxide of zinc, one ounce of boracic acid, half an ounce of subnitrate of bismuth, olive oil to twelve ounces; with the use of arsenic internally when the inflammatory symptoms had subsided. One of the severest cases of eczema I ever saw was cured after about six weeks' treatment with the above.

Halkirk, Caithness.

## ENORMOUS SIZE OF THE RIGHT KIDNEY IN A CHILD FOUR YEARS OF AGE.

By E. G. BULLEID, L.P.C.P., L.R.C.S. EDIN.

ON the morning of Nov. 30th last I was called at 2.30 A.M. to see a boy four years of age who was said to be dying. On my arrival I found him in a comatose state, which was followed by convulsions until his death at 5 A.M. I was told by his parents that at 1 A.M. he was awake and as lively as usual. At the coroner's request I made a necropsy, and found the right kidney enlarged to an enormous size (weighing 25 oz.). The kidney substance was thoroughly disorganised; the capsule was almost one-eighth of an inch in thickness; it was oval in shape, very hard, and on section proved by examination to be a sarcoma. Now in this case the boy had no pain, never had (as far as his parents knew) any hæmaturia, and was considered a strong child, attending school regularly. They certainly noticed that he had become thinner during the previous six weeks, but beyond that no other symptoms were revealed.

I have ventured to report this case on account of its rarity, not having read of any case where the kidney had attained such a size without showing some outward sign of being a growth in the region of the kidney.

Southwick-street, W.

# A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

**Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.**—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

## MIDDLESEX HOSPITAL.

### A CASE OF LANDRY'S PARALYSIS.

(Under the care of Dr. DOUGLAS POWELL.)

THE disease, of which the following case is a good example, known as acute ascending paralysis was described by Landry in 1869. It is not often seen in our hospital wards, and we are still doubtful as to its causation and pathology. "The progress, duration, and event of the disease vary. It is generally fatal, death resulting from the usual consequences of bulbar paralysis. The paralysis may become general and destroy life in the course of two or three days. Occasionally the progress of paralysis is much slower, and death is delayed until the end of the third or fourth week."[1] For the notes of the case we are indebted to Dr. H. Campbell Thomson, house physician.

A woman aged thirty-nine years was admitted to the hospital on July 14th, 1894, complaining of loss of power in the body and limbs. There was nothing of importance in the family history, and her previous history was one of good health; she had had three normal confinements, and up to the time of her illness had been suckling for nine months. On Sunday night, July 8th, the patient complained of a headache, which became worse the next day, and on the afternoon of July 9th there was great aching over the upper part of the back, and the patient commenced to retch. Retching and vomiting frequently occurred during the next two days, after which it passed off. On July 10th the patient noticed some sensation of tingling and numbness in the hands, which was followed in a few hours by similar sensations in the feet, and with the onset of numbness there was some loss of power both in the legs and arms. On July 11th the numbness reached as high as the knees and loss of power was well marked. On July 13th there was very marked loss of power, but the patient was still able to pull herself up in bed. There

[1] Bristowe: The Theory and Practice of Medicine.

had been no pain and no trouble with the sphincters. On admission, July 14th (the sixth day of illness), tingling sensations were complained of in the hands and feet, but no pain. There was considerable modification of the tactile sensibility; a firm touch could be felt anywhere, but a very light touch could not be felt on the feet; moreover, any firm touch was further modified by being felt as a "prickling sensation," and this modification was present over the whole of the lower extremities and also over the hands. Sensibility to pain was well marked, but sensation of heat and cold was impaired. The sense of locality was normal. Loss of power was almost quite complete in the legs except for a very slight movement of the toes, and the muscles were relaxed and flabby. The patient was now not able to pull herself up in bed. The abdominal muscles moved slightly on respiration, and contraction of the diaphragm was present. There was no dysphagia. The trunk muscles were weak, and the patient could not turn in bed. The grasp of both hands was very weak, and loss of power was well marked in the muscles of the forearm, but the biceps and triceps contracted well, and the patient could touch the back of her head with her hands. The thoracic muscles of respiration acted well. There was no acute wasting, and the muscles reacted to the interrupted current. The superficial and deep reflexes were absent. There were no bedsores or other signs of acute trophic change, and the sphincters were under control and regular in action. The eyes, speech, and hearing were all normal. The heart sounds were normal. The pulse was 76, and regular; the respiratory sounds were normal. There was nothing of note in the urine. Loss of power continued to progress, and on July 15th the patient was quite unable to touch the back of her head with her hands, and the modified sensation had extended up the arms to a point three inches above the elbow-joints. Sensation was also impaired over the lower part of the abdomen, and no contraction over the diaphragm could now be made out. Pulse 88, regular, and of rather heightened tension; respiration 24. The patient was very sleepless and had copious sweatings. Twenty minims of liquid extract of ergot were given every two hours, and one teaspoonful of brandy every two hours; also a pill of mercury and rhubarb. A few hours later the ergot was given hypodermically as two-thirds of a grain of ergotin every two hours, and twenty grains of sulphonal at night. On the 16th the diaphragm and abdominal muscles were paralysed, and perversion of sensation in the left arm extended as high as the axilla, and on the abdomen to one inch below the umbilicus. The patient sweated very profusely. Half an ounce of brandy was given every two hours. On July 17th (the ninth day) there were difficulty in swallowing and difficulty in closing the lips, and dropping of the right eyelid and thick speech became added to the other symptoms. The breathing was shallow and entirely thoracic, with considerable dyspnœa. Respiration 28; pulse 120, of fair tension, and regular. The patient was now fed with nutrient enemata, and two tablespoonfuls of whisky were given instead of the brandy. The injections of ergotin were still continued. On July 18th there was marked loss of power in the right half of the face; the right eyelids could not be closed and the mouth was drawn over to the left; sensation in the face normal. The urine was passed involuntarily once during sleep. There was slight ptosis of the left eye. The pulse was 144. On July 19th (the eleventh day) the movements of the diaphragm and the abdominal muscles improved, but the general condition of the patient was much weaker. The pulse was 120, very weak, and the patient was very drowsy. Two drops of liquor strychniæ were injected hypodermically every two hours and the ergotin omitted. On July 20th there was double facial paralysis, but the soft palate remained free; some slight conjunctivitis was present owing to the inability to shut the eyes, but this quickly recovered under treatment. The pulse was 120, well sustained. The patient sweated freely. On July 22nd improvement commenced and steadily progressed; the power of swallowing became better and some slight power of movement returned in the arms. The pulse was 128, well sustained. On the 23rd power was considerable in the right side of the face. There was now found some albumen in the urine. By the 25th both eyes could be closed, but there was still no recovery in the limbs. The urine and fæces were still occasionally, but only occasionally, passed involuntarily. The pulse was 140. On the 26th the pulse was 128, of fair tension. The respirations were quiet, with more thoracic movement. Urine: sp. gr. 1030; no sugar or albumen. By the 30th power returned in the arms, so that the patient could flex the left arm so as nearly to touch the face. The pulse had twice reached 104, but was generally 120, with fairly maintained tension. The respirations ranged from 28 to 20. On Aug. 2nd (the twenty-fourth day) the face could be touched with both arms; but there was no movement in the legs. There was no albumen in the urine. On Aug. 8th the patient could touch her head with both hands and could move her legs slightly. She complained of muscular pain on movement. On Aug. 14th power in the face had almost completely returned. The eyes could be tightly shut, and the corners of the mouth could be freely moved. The arm movements, although free, were still jerky in character and the fingers were rather stiff. The legs could be slightly moved, but not lifted from the bed. The reflexes were still quite absent. On Aug. 28th the patient was treated with faradaism. The thenar and hypothenar eminences were considerably wasted, but not more than was incidental to such severe illness, and all the muscles reacted to the interrupted current. On Sept. 8th the grasp was good and the patient was able to dress her hair. On Sept. 10th the patient sat up in a chair for the first time, and on Sept. 22nd she walked round the ward without assistance. On Oct. 3rd she went down to the garden, and on Oct. 6th she was discharged to a convalescent home, on the fifty-seventh day of illness. On Oct. 29th the patient came to the hospital quite well, except that, although she walked with a natural, swinging gait, the ground felt somewhat woolly and her knee reflexes were absent.

*Remarks by* Dr. DOUGLAS POWELL.—The above case came well within the definition of the disease known as Landry's paralysis—a motor paralysis usually beginning in the lower and spreading rapidly to the upper extremities and trunk; often invading the muscles of the face, tongue, palate, larynx, and eyeballs, and either proving fatal in a short time by respiratory paralysis, or improvement beginning and progressing gradually to partial or complete recovery. The general sensibility is almost always affected, but not often in a profound degree; the bladder and rectum are only occasionally implicated, and the muscles are stated not to undergo atrophy and to retain their electrical excitability.[2] Where was the lesion in this case? Was it central or terminal, or in the nerve trunks? In answer to these questions the case presented the following points for consideration. The limbs were affected from their extremities upwards, and the two sides of the body were simultaneously attacked, although not necessarily in the same degree. The paralysis was observed to spread centrally and symmetrically from the extremities of the two limbs on either side, to involve the whole, or very nearly the whole, muscular system, the reflexes being annulled and sensation impaired or abolished *pari passu* with the motor paralysis. Taken with all this extent of lesion there were three remarkable points by way of exception—viz., (1) the facial muscles were completely paralysed, but the sensibility of the face was unaffected; (2) the bladder and rectum reflexes practically escaped; and (3) the reaction of the paralysed muscles to the faradaic current was little if at all impaired. It will be remembered that the nerve supplying the muscles of the face is a purely motor nerve, and that the bladder and rectum reflexes are in constant action, depending on voluntary influence only for their inhibition. A lesion of the spinal cord so extensive as to involve motion and sensation throughout the body could scarcely have stopped at these points. Again, the reaction of the muscles to the faradaic current points to the defect not being seated in the muscles themselves. By exclusion, therefore, the lesion would be in the nerve trunks beyond the junction of their two spinal roots; the simultaneous involvement of motion and sensation, except in the territory of those nerves which are purely motory, being strongly confirmatory of this view, which is further supported by the abolished limb reflexes. We have to do, then, with a peripheral, or multiple, or disseminated neuritis, which is by some writers regarded as the coarse pathology of Landry's paralysis, or acute ascending paralysis, as it is sometimes termed. What has brought about so sudden and extensive a lesion of the nerve trunks? The only bit of evidence bearing upon this point is the gastric disturbance with which the illness commenced, pointing to the possible reception of some organic poison, but open to other interpretations. It is contended by modern pathologists that Landry's

[2] On Peripheral Neuritis; by James Ross, M.D., and J. D. Bury, M.D., 1893, p. 16.

paralysis, like some other paralyses, is due to the working of some poison upon the nerves, causing neuritis, which may proceed to breaking up of the nerve elements.[3] This case certainly much resembles diphtheritic paralysis and still more a few cases of influenzal paralysis which I have seen. But cases secondary to enteric fever, to alcoholism, to metallic poisoning, and to the action of some gaseous poison, have been classified as essentially similar in pathology to the disease we are considering, although yielding varieties as regards acuteness and extent of lesion. We are, then, some distance yet from isolating the cause that can become active under such varied conditions. Let us turn for a moment to the question of prognosis and treatment. The case looked desperate enough, so acutely extending towards the vital centres; but even in cases which appear but little hopeful we should look around for encouragement and indications for treatment. In this case the pulse was the only point favourable to the patient. It steadily quickened, it is true, but it maintained its regularity, and, with one or two exceptions (notably on the eleventh day), was even of rather high tension, the heart sounds being clear. A patient rarely dies or is within close approach of death with a high tension pulse and an accentuated second sound, and so hope was never quite abandoned in the case of this patient. The treatment was of great importance; the patient would certainly have died had she not been admirably nursed. The prevention of bedsores was an important matter. A dry, taut draw-sheet, well dusted, and the prompt use of a water mattress, with the usual scrupulous cleanliness, are the main requirements, but there are little details only to be learned by practical observation. Feeding was the next point requiring much attention, which was early in the illness supplemented by nutrient enemata. Ergot was tried, but I could not observe the slightest benefit from it, and when the steadily quickening pulse and paralysed diaphragm gave warning of danger of respiratory and cardiac paralysis two minims of liquor strychninæ were given every two hours as a heart and respiratory tonic, and, it seemed, with good results; that is to say, by these measures the patient was aided to live until she could get better, and this, I take it, is the object of treatment in most cases of acute illness.

## ANCOATS HOSPITAL, MANCHESTER.

### SOME CASES OF ABDOMINAL SURGERY.

(Under the care of Mr. STANMORE BISHOP.)

WE give below the first two of a series of four cases of operation for diseases of the abdomen, reserving one of operation for ovarian tumour with extensive adhesions and one of vaginal hysterectomy for cancer for our next issue. Each case presents some features which make it of interest to the profession; this is indicated by Mr. Stanmore Bishop in his remarks.

CASE 1. *Dilated gall-bladder; removal of calculi; death from ulceration of impacted calculus.*—The patient, a woman aged forty-three years, who had been married nineteen years and had nine children, the youngest being six months old, was admitted to hospital on March 18th, 1894. Three years ago she struck her right side against the corner of a table. For the last two years she had noticed a small tumour in the right hypochondrium and had had sharp spasmodic pain from time to time. There had sometimes been actual vomiting, which always relieved the pain. These attacks were becoming more frequent. She had latterly been much more easily tired than before and had complained of pain in both lower limbs. She was a spare, healthy-looking woman, with rather prominent abdomen, slightly flattened in front, the abdomen being quite supple. On the right side, midway between the umbilicus and the anterior superior iliac spine, at the level of the iliac crest, was felt a firm resistent mass, with rounded, well-defined lower extremity. The sensation yielded was that of a solid mass, with rounded outlines, becoming less distinct above. It lay outside the usual line given for the gall-bladder. Sometimes she said it almost disappeared. Over the mass percussion gave a dull note, becoming clearer, but not absolutely clear above, nearer the liver. Behind and in the area of the kidney it appeared to be clearer than usual. She had never had jaundice or any sudden and acute pain. The urine was normal. She had never had partial or absolute suppression of urine. The tumour was not fixed, but only slightly movable. Any attempt to press the tumour into the renal region caused pain. On March 27th a five-inch incision was made in the right oblique line vertically over the tumour. On opening the peritoneum the right lobe of the liver presented. On pushing this upwards, and a coil of small intestine inwards, a greyish white tumour was seen, of which the lower end could be lifted into the wound. Tracing this upwards it was found to be closely connected to the liver, free in front and at the sides, but adherent to the omentum below. Sufficient of this omental adhesion was tied off to leave a space one inch and a quarter in diameter free, which was then fixed in the wound by radiating horsehair sutures, uniting the tense gall-bladder with the peritoneal edges. The wound in the abdominal wall was loosely packed with iodoform gauze, covered by wood wool tissue dressings and a flannel bandage. On April 3rd the patient had been very well, but complained of slight dragging sensation in the wound. The dressing was changed. On the 4th the gall-bladder was opened—i.e., on the eighth day. Seven ounces of clear mucus escaped. On the 8th three gall-stones were removed, weighing together two drachms and ten grains. She became rather faint, but had no pain. On the 10th two more saddle-shaped stones were removed. No more could be felt. The cavity had been washed out daily since the opening with Izal solution. On the 13th some small amount of pus was seen for the first time. The discharge on the dressings had a greenish colour. On May 11th the wound had shrunk to a mere sinus, but for the last week there had been constant rigors, with a hectic temperature. As there appeared to be some swelling around, although no pus could be found by the passage of a probe of any further foreign body, a vertical incision was made in the middle line and to the left of the previous opening in the epigastric region. The liver appeared to be large and dark, but not otherwise altered. No stone could be felt in the duct and no accumulation of pus anywhere. The opening was therefore closed. On the 13th rigors were not so marked, but the temperature still showed a hectic type; the patient had a muddy septic colour of skin and apathetic manner. The chest sounds were clear. There was no peritonitis and no mass in the abdomen except the thickening around the gall-bladder. On the 22nd there was no change in the symptoms. She was more haggard-looking. Some bile came from the sinus, with a very little pus. The temperature was still hectic. There was some hypostatic pneumonia on the left side. She died on the 26th. At the post-mortem examination on the 27th no pus was found anywhere. The gall-bladder was shrunken to the size of a little finger. On lifting out the liver a gall-stone, the size of a small marble, dropped into the peritoneal cavity. The opening, which was of the size of a sixpenny piece at the junction of the cystic and common duct, was a ragged one, and around it the parts were stained with bile, but there was no localised or other collection of pus, nor were there any limiting adhesions. There was no empyema. The lungs, liver, heart, and kidneys were normal. The spleen was pulpy, but contained no pus. There was no pus in the hepatic or portal veins.

*Remarks by* Mr. STANMORE BISHOP.—The condition found post mortem was unexpected, as there had been no symptoms pointing to the existence of a further stone, and exploration did not discover it; whilst for three weeks there had been repeated rigors and a hectic temperature, pointing to the presence of pus. Repeated search was made for this, but neither during life nor after death could any be found. One or two other cases in which a similar temperature has been noted after operations involving the peritoneum, ending, however, in recovery, and without the formation of pus or any sign of peritonitis, which, indeed, usually is associated with a lowered temperature, suggest the possibility of a special temperature curve depending upon irritation of the sympathetic nervous system.

CASE 2. *Operation for femoral hernia in a boy.*—The radical cure of simple unstrangulated hernia is now so safe that a death has been unknown at Ancoats Hospital, but the case is reported for three reasons. Firstly, it is very unusual for a femoral hernia to occur in a boy. Secondly, it

[3] The fact that in this case there was so much loss of motor power and yet the muscles responded to faradaism points to some toxic influence on the nerves sufficient to make them no longer capable of conducting voluntary impulses, yet insufficient to produce complete disorganisation, inasmuch as they were still capable of conducting faradaic impulses. Dr. Risien Russell, who was kind enough to look through the above in proof for me, points out further that the paralysis of the diaphragm (phrenic) whilst the thoracic muscles of respiration continued in action was another fact in favour of the peripheral nature of the disease under consideration, for in an ascending lesion of the cord (myelitis) the thoracic movements are abolished before the diaphragm is put out of action.

illustrates the theory of causation put forward in a paper in THE LANCET early this year.[1] And, thirdly, the apparently satisfactory result goes to show that in Mr. Watson Cheyne's operation the operator has a method which fulfils the indications necessitated by the anatomical peculiarities of this region. The patient was aged nine years. The hernia was first observed during the course of a very severe attack of pertussis three years ago. The hernia had never enlarged to any great size, and was about the size of a chestnut. It, however, gave him pain at times, and no truss that he had tried kept it properly under control. On Nov. 22nd, 1893, a vertical incision was made over the hernia showing a lobule of fat, beneath which lay the sac, the size of a filbert. This was emptied, the contents being easily reduced, and separated from the surrounding tissues well up to and slightly beyond its neck. A kangaroo tendon suture was then passed—purse fashion—through the sac, its centre lying over the fundus, and its two ends were passed from within outwards, the one through Poupart's ligament, the other well down through the pectineus. The sac was then drawn up. So far, the operation Mr. Stanmore Bishop performed differed from that of Mr. Cheyne, inasmuch as he ligatures and removes the sac at its neck, and is similar to the modification of Mr. McEwen, which Mr. Bishop suggested some years ago. The sac being reduced, a flap was marked out in the pectineus, and dissected up, so as to turn upwards as upon a hinge at its origin from the pubes, and then drawn up by a silkworm gut suture underneath Gimbernat's and Poupart's ligaments. When this suture had been tied, the two ends of the kangaroo tendon were tied over the flap and ligament. Catgut drainage was used for the gap left, and the skin and superficial structures were united by horsehair. Iodoform gauze and wood wool dressing were used, covered by a plaster-of-Paris bandage from the knee to the waist, the thigh being fixed in a slightly flexed position. The wound was not dressed for a month. On Dec. 20th all had healed except one point leading down to the silkworm stitch. The skin around was slightly excoriated, but soon became normal under dry dressings. Two months later, as the sinus still persisted, the stitch was cut down upon and removed. Healing rapidly took place, and fourteen days later the parts were sound. On June 14th, 1894, the wound was perfectly sound, and there was no sign of yielding.

*(To be continued.)*

# Medical Societies.

## PATHOLOGICAL SOCIETY OF LONDON.

*Tumour of Palate.—Post-rectal Dermoid forming a Rectal Polypus.—Malignant Tumours at the Base of the Skull.—Subdural Hæmorrhage in Infantile Scurvy.—Hepatic Infarcts.—Observations on the Repair of Tendons.—Pharyngeal Pouch.*

AN ordinary meeting of this society was held on Dec. 18th, the President, Dr. PAVY, being in the chair.

Mr. S. G. SHATTOCK showed an example of Tumour of the Palate, which in structure was one of those resembling the growths of the parotid and submaxillary glands. It consisted of cartilage and myxomatous tissue in which lay branching columns of cells, which, though often regarded as glandular, were also held to be of connective tissue origin, and in the latter view he concurred. Similar tumours had been met with in the lip, and he had himself examined such a one. The resemblance of these different tumours to those of the parotid and submaxillary glands and the general peculiarity of their structure had led Mr. Shattock to inquire whether the palatine and labial glands of man were salivary. It was difficult to say what should be understood by a salivary gland; in the horse the saliva contained no ptyalin, and he had found the same of the submaxillary gland in the sheep. It was clear, therefore, that what was a salivary gland might be merely a mucus-forming one. He had tested the matter by finely mincing the palatine and labial glands after careful cleansing and dissecting away the whole of the mucosa, triturating with weak starch solution, and then placing in the incubator at body temperature. The cut surface of the palatine glands often gave an acid reaction, as a post-mortem change, and it was necessary that this should be neutralised. The results he had tested in the usual way by the action of iodine solution. Although he had made a considerable number of experiments, he had found evidence of the presence of ptyalin in only a few; this was in the cases of two children and an adult. In an infant aged one month no amylolytic action was obtained from either palatine or labial glands. He recalled the fact that ptyalin was absent from human submaxillary saliva before the third month, and that in dog's saliva its presence was variable. Professor Klein had many years ago described in the child's soft palate glands which he held to be quite different from the mucous; and Mr. Shattock suggested that these were probably amylolytic. These physiological facts were of interest as relating these various tumours to one another, but he could offer no explanation why cartilage should be so commonly found in all, not merely in the parotid, with which Meckel's cartilage or that of the pinna might come into relation, but in those also of the soft palate and labial glands.—Mr. BOWLBY remarked that the microscopical characters of these tumours of the palate had been inadequately described. Those which grew for years had a more uniform structure than the more recent growths. As to the structure of the cells and the irregular columns, he agreed that most of them were connective tissue cells. Some epithelial cells were undoubtedly present, but these were degenerate both in structure and function. The cartilage was probably derived from pre-existing connective tissue.—Mr. STEPHEN PAGET said that his interest in tumours of the palate was purely clinical. He showed a specimen, which had been sent to him by Mr. Morton of Bristol, of a small tumour of the hard palate taken from a woman aged fifty years. The tumour shelled out with the greatest ease. The hyaline tissue was found in the very youngest tumours with no softening, and, therefore, the process could not be degenerative.—Mr. BEADLES referred to a necropsy on an advanced case of myxœdema in which there were numerous cartilaginous tumours in the lungs; these had no connexion with the cartilages of the bronchi. The enchondromata, perhaps, developed in the myxomatous tissue.—Dr. SNOW thought that masses of cells such as those seen in the sections shown were never derived from the connective tissue cells unless spindle cells were also present in considerable quantity. The mixed structure of these growths suggested a congenital origin.—Mr. SHATTOCK, in reply, said that the hyaline metaplasia which these specimens underwent was accompanied by a hardening, rather than by a softening, of the tissue. Cartilaginous tumours of the lungs were not at all rare. Virchow and Wilkes had both recorded many cases in which the enchondromata arose independently of the cartilages of the bronchi.

Mr. GOLDING-BIRD narrated a case of Rectal Polypus in a woman aged thirty-six years, which he found when examining her for hæmorrhoids. The tumour, as a pear, grew from behind the rectum, high up, and projected into the lumen of the bowel. It was plastic to the touch and could be moulded by the fingers. It was extruded from the anus under an anæsthetic and enucleated through a vertical incision made in the mucous membrane over it. Its point of origin could not be reached, so it was ligatured as high as possible under the mucous membrane and removed. The patient recovered without complication. The tumour proved to be a cyst with clayey contents, and a vertical section of its wall showed all the structures of the large intestine, thus agreeing with a post-rectal dermoid described by Middeldorpf, and indicating its origin from the mesenteric canal.—Mr. SHATTOCK asked why this specimen was called a dermoid when there was no skin structure present.—Mr. GOLDING-BIRD, in reply, said that it was impossible to go back upon the etymology or the entire language would have to be reconstructed. He, for his part, adopted the nomenclature of Mr. Bland Sutton, of which he expressed his approval.

Mr. CECIL BEADLES read a paper on two cases of Tumour involving the Base of the Skull. He said that the vast majority of growths springing from the pituitary body came from the anterior lobe; they were for the most part glandular in structure, with cystic formation, and were characterised by the slow development of cerebral symptoms from pressure. Hæmorrhage into their substance was common. He remarked that a large proportion of the malignant growths of the brain seen in insane people originated in the pituitary body. He then described a case of glandular carcinoma which involved the capsule of the hypophysis cerebri, which also contained squamous-celled elements; the primary growth probably

[1] THE LANCET, Feb. 10th, 1894.

sprang from the ear. In the second case there was a large tumour of the size of an orange, which in structure resembled a sarcoma, but epithelial cell masses were likewise seen in it. The patient was a man aged forty years, and a naso-pharyngeal polypus had been previously removed in St. Thomas's Hospital. The cerebral growth was probably a secondary deposit. After some discussion this specimen was referred to the Morbid Growths Committee.

Mr. TARGETT showed a large Endothelioma removed from the Pituitary Fossa of a middle-aged man. The specimen was presented to the Museum of the Royal College of Surgeons of England by Mr. C. J. Horner of Walthamstow. When first seen by a medical man the patient was in a drowsy condition, with symptoms of Bright's disease. He gradually became deeply comatose and died. Shortly before death a profuse discharge of pus from the left nostril was observed. At the necropsy meningitis was found, and on raising the brain a rounded tumour distinct from the cerebral substance was seen filling the sella turcica and overlapping its margins. The clinoid processes were eroded and the floor of the pituitary fossa was perforated, so that a free communication existed between the fossa and the nostrils. The tumour, which was bathed with pus, appeared to spring from the dura mater lining the fossa; but its relation to the hypophysis cerebri was not determined. During life there were no signs of acromegaly.

Dr. WALLIS ORD showed an extensive Subdural Hæmorrhage from a case of Infantile Scurvy. The clot occupied the whole of the vault of the cranium, but there was no sign of hæmorrhage at the base. The patient had been fed on a prepared food from birth, and showed marked rickety deformity of the head, with beading of ribs, but no affection of the long bones. There had been no sign of intra-cranial pressure during life, and the child had died from an attack of acute broncho-pneumonia. There was no history of syphilis, tubercle, or hæmophilia. Feeding on fresh food and medicinal treatment had not effected much improvement in the case, which showed an extreme degree of anæmia, hæmoglobin only amounting to 10 per cent. of normal. He drew particular attention to the question of feeding, the involvement of the cranial bones with freedom of the long bones, the absence of pressure signs, and the evidence of the non-epidemic character of the disease, a twin brother brought up in the same way being quite free from scurvy.—Dr. G. A. SUTHERLAND said that there had been only three other cases recorded. He asked if investigation had been made into the condition of the vessels. In one case thrombosis of the basilar artery had been found. The bone in the parietal region was soft, spongy, and vascular, and this possibly explained why the hæmorrhage took place in connexion with the dura mater.—Dr. WALLIS ORD, in reply, said that he did not examine the vessels. The bone, though thick, was very soft on section.

Dr. CYRIL OGLE showed a recent specimen of Infarction of the Liver. The infarcts were similar to those found in the spleen and kidneys of the same case. A soft patch of fibrin had become detached from a calcareous aortic cusp and this had blocked a considerable branch of the hepatic artery, and the patient being an old man with a feeble circulation infarction had followed although the portal vein was not also blocked. Infarctions were very rare in the liver, but it was possible that they were often overlooked, their colour resembling the tissue of the organ when it had undergone localised fatty degeneration.

Mr. JACKSON CLARKE read some observations on the Repair of Tendons. He found that twenty-four hours after aseptic division of a tendon the retracted ends were joined by a gelatinous material. At the end of forty-eight hours this material was traversed by branched and anastomosing young connective tissue cells, which to all appearance were divided solely from the sheath and its inter-fascicular prolongations. The severed tendon showed no sign of activity. There were no Mastzellen, or any appearance which lent the least support to Grawitz's theory of Schlummerzellen. Phagocytosis of granular leucocytes and red blood-corpuscles by lymphocytes and young connective tissue cells had been in active progress. The appearances due to phagocytosis could not be mistaken for sporozoa.—Mr. SHATTOCK asked Mr. Clarke how he distinguished a leucocyte from a young connective tissue cell.—Mr. CLARKE, in reply, said the dead leucocytes were easily distinguished. The difference between a leucocyte with amphophile granules and a young connective tissue corpuscle was easily shown by staining by Biondi's method. The difference between a lymphocyte and a young connective tissue corpuscle was that the former was never so much ramified as the latter.

Dr. ROLLESTON showed a specimen of a Pressure Pouch of the Pharynx almost exactly similar to the one described and figured by Mr. Chavasse in the Pathological Transactions for 1891, p. 82. Mr. Butlin, in vol. lxxvi. of the Royal Medical and Chirurgical Society's Transactions, had collected a number of similar cases, and, like Mr. Chavasse, called them œsophageal pouches. Most of Mr. Butlin's cases and the specimen shown seemed to be more aptly described as pharyngeal pouches, as they came off from the pharynx and not from the œsophagus. The pouch lay behind the œsophagus, not more to the right than to the left side; its orifice was rather bigger than that of the œsophagus at the junction with the pharynx. The specimen was obtained from an old woman aged seventy-one years who died after herniotomy. Inquiries as to whether she had presented the symptoms of a pressure pouch had not as yet been satisfactorily answered.—Mr. TARGETT said that he had dissected Mr. Chavasse's specimen, and had found some involuntary muscle fibre in the wall of the pouch.—Mr. SHATTOCK said that in the specimen he showed two years ago from St. Thomas's Hospital Museum the pouch was laterally placed, and evidently arose in connexion with the fourth branchial cleft.—Dr. ROLLESTON, in reply, said that the pouch shown, being in the mid-line, did not seem to be connected with the branchial clefts; it was, perhaps, traumatic in origin, from lodgment of food or other cause.

## CLINICAL SOCIETY OF LONDON.

*Series of Eighty Cases treated with Diphtheria Antitoxin.—Some Cases of Rapid Cure of Diphtheria by Means of Antitoxin.*

AN ordinary meeting of this society was held on Dec. 14th, Mr. J. W. HULKE, President, being in the chair.

Dr. WASHBOURN, Dr. E. W. GOODALL, and Mr. A. H. CARD gave the details of a Series of Eighty Cases treated with Diphtheria Antitoxin. They began the treatment on Oct. 23rd, and continued it until Nov. 27th. Bacteriological examination was made of all the cases directly they were admitted into hospital by inoculating tubes and making cover glass preparations from the exudation for microscopical examination. In about a third of the cases the diagnosis could be made from this alone. Attention was paid to the following points—the number of typical and atypical diphtheria colonies, the varieties of the diphtheria bacillus, and the number and character of the other colonies present. Special attention was paid to the latter point on account of the importance that has been attached to the association of other bacteria with the diphtheria bacillus in connexion with the clinical course of the disease. In the majority of instances of true diphtheria the naked-eye appearance of the cultivations was characteristic, the diphtheria colonies at the end of twenty hours being opaque and the size of a pin's head. The only colonies resembling them were those of a coccus described by Roux and Yersin, and called by them the "Brisow" coccus. They differed in being more transparent and less prominent. It was rare, however, for other bacilli than diphtheria bacilli to grow in the tubes. In addition to the typical colonies other diphtheria colonies, much smaller and more transparent, frequently developed. In 8 out of the 61 cases of true diphtheria none of the colonies were typical, either not assuming the characteristic appearances at the usual time or being smaller than usual, but they had experimental evidence to show that these cases were true diphtheria. Of the 80 cases examined, all of which were certified to be suffering from diphtheria, the typical bacilli were found in 61. This figure was exactly the same as in Roux's results in this respect. In one case of croup there was no exudation upon the fauces, yet a bacteriological examination revealed the presence of diphtheria bacilli, the patient ultimately requiring tracheotomy and recovering. With one exception all the cases in which the bacilli were found were clinically recognisable as true diphtheria. The exception had the appearance of a case of follicular tonsillitis. Eleven cases, which on admission presented the clinical aspect of true diphtheria, failed to give evidence of the presence of diphtheria bacilli. Only one patient belonging to this class died, and death was attributed to bronchitis. They divided the true diphtheria

cases into mild, moderately severe, and severe. They examined the cover glass preparations (1) as to number of bacteria present, and (2) the character of the bacteria present, and a rough estimate of their several numerical strengths. In 6 cases the exudation was remarkably free from bacteria, and of these 4 were mild and 2 were of moderate severity. In 10 the bacilli were comparatively few, and only 1 was severe and none fatal. They concluded that the fewer the bacteria in the exudation the better was the prognosis. In addition to the diphtheria bacillus they found straight bacilli of various sizes, comma-shaped bacilli, fine spirilla, diplococci, streptococci, and other micrococci. In only 7 cases were diplococci absent. No prognostic importance could be attached to the absence or presence, or the number, of these or of the spirilla, straight, or comma-shaped bacilli. Streptococci were found in more than half the cases, but their presence did not appear to influence the course of the disease. In about a third of the cases characteristic diphtheria bacilli could be distinguished in the exudation with sufficient certainty to make a diagnosis, and very few of these cases were of a mild type and more than a third of them died. In 13 cultivations only diphtheria colonies developed, and a third of the cases died. In 17 cases only a comparatively small number of diphtheria colonies developed in the tubes. Only 4 of these were severe. In 8 cases the diphtheria colonies were atypical, and of these 5 were mild. In 45 cases streptococci were associated, in 18 in large numbers. Of these 18, 4 were severe and 3 died. In the 61 cases of true diphtheria 3 contained a very large number of streptococci, but only 1 of these was severe and ended fatally, but this case was complicated with scarlet fever. Their observations seemed to show that, contrary to what has been stated by others, the association with streptococci is not of unfavourable import; indeed, rather the opposite. Three cases were associated with the "Brisow" coccus, these cases being—2 mild and 1 moderately severe. In 2 cases of association with the staphylococcus aureus the disease was mild. In 3 cases the short variety of the diphtheria bacillus was found, and all were mild. In 10 instances the medium variety was found, and half were mild. The short variety would thus appear to be the least virulent and the medium variety to be less virulent than the long. The serum was injected into the subcutaneous tissue of the flank, every precaution being taken to sterilise the syringe &c. The amount injected at a time varied from 5 to 30 c.c., the total amount varying from 5 to 90 c.c., the latter in eight separate injections on successive days. A common dose was 20 c.c., followed by another 10 c.c. in from eighteen to twenty-four hours. A local swelling formed, which disappeared in about twenty minutes. In all, 82 patients were treated, all being under fifteen years of age. Two proved on the day after admission to be cases of scarlet fever, and had been excluded; 8 of the cases appeared from clinical observation extending over several days to be rather angina than true diphtheria, and this diagnosis was confirmed by bacteriological examination. They relied more on clinical than bacteriological data, because a bacteriological examination was only made in a few of the comparison series, which went back to the beginning of 1893. The proportion of cases under fifteen years of age in this series admitted as true diphtheria, but which were subsequently recognised not to be diphtheria, was 10·4 per cent., which corresponded with the 8 out of 80 in the cases now under consideration. Of the remaining 72, 14 died, equal to a mortality of 19·4 per cent. The mortality in the same class of cases during 1893 (397 cases, with 166 deaths) was 41·8, and during 1894, up to Oct. 22nd, the mortality was 36 per cent. (400 cases, with 144 deaths), a total of 797 cases, with 310 deaths, equal to an average mortality of 38·8 per cent. Of the 72 cases immediately preceding those treated with antitoxin, 28 died, equal to a mortality of 38·8 per cent. In their opinion the cases thus treated were rather above than below the average severity. During the period Oct. 23rd to Nov. 27th the mortality at other hospitals was as follows: At the Western Hospital 33·3 per cent., at the South-Western Hospital 32·2 per cent., at the South-Eastern 23·6 per cent. (38 cases, with 9 deaths). At the latter hospital the number of cases was too few for accurate comparison. Tracheotomy was performed in the present series in 9 cases, and of these 3 died and 6 recovered. In 13 previous series, of 9 cases of tracheotomy the number of recoveries had varied from 0 to 4, the average of recoveries per series being 1·75. The good effects of antitoxin were manifested (1) by a lessening in the amount of membrane; (2) by a notable fall in the pulse rate; (3) by an improvement in the general condition; and (4) by a fall of temperature when this was raised. They noticed that after Nov. 13th the effects of the serum appeared to be more pronounced, and the dose was consequently diminished, and Dr. Ruffer was written to, saying that this had been done. They had learned from him since that the clinical evidence quite bore out the experimental evidence, the fresh serum coming from a different horse and being at least five times as strong. Of the 72 patients 30 had albuminuria, all being cases of true diphtheria. So far only 6 patients had developed paralyses, and none of them were severe. The incidence of paralysis among the 792 cases had been 13·7. A rash was observed in 20 of the 80 cases coming on from the seventh to the nineteenth day of variable form, usually first appearing about the wrist and ankles. In 6 cases pain had been noticed in certain of the joints, the smallest dose to produce this being 10 c.c. The pain lasted from one to three days, being accompanied by pyrexia and, except in one instance, by pain. The only local treatment adopted at the same time as the antitoxin was occasional flushing of the mouth and fauces with warm water. The serum employed was prepared by Dr. Ruffer for the British Institute of Preventive Medicine.

Mr. KESTEVEN said he had treated several cases of diphtheria occurring in connexion with an epidemic at Finchley by means of antitoxin, with the result of producing a rapid and marked improvement in a few hours. In several of the cases bacteriological examination was made and the Klebs-Löffler bacillus identified. Most of the cases commenced as follicular tonsillitis. Even in the cases not examined bacteriologically the clinical evidence as to the diphtheritic nature of the disease was quite conclusive.

Dr. CLEMOW related the case of a patient aged fifteen years, to whom he was called on Dec. 1st at 5 P.M. She had been ill eight days, and at the school she had been attending there had been several cases of diphtheria. The whole of the soft palate, uvula, tonsils, and posterior pharyngeal wall, as far as he could see, were covered with thick, white membrane. The temperature was 103° F., and the pulse 135. On Dec. 2nd the urine contained one-fourth albumen, and there was dulness over the base of the left lung, with tubular breathing. The voice was reduced to a whisper. At 2 P.M. the respiration increased to 37, and 8 c.c. of antitoxin, supplied by Dr. Klein, were injected, and 8 c.c. more were injected at 8.30 P.M. At 2 P.M., on Dec. 3rd, 7 c.c. more antitoxin were injected. The membrane appeared to be getting thinner. At 11.30 P.M., after a severe fit of coughing, a large tubular portion of membrane, which was continued by a long tape-like process of about equal length, came up, after which the patient felt much easier. The child subsequently made satisfactory progress and the pneumonia was undergoing resolution. The membrane had been examined bacteriologically by Dr. Klein, who reported the presence of undoubted diphtheria bacilli.

Dr. HERRINGHAM said that at St. Bartholomew's Hospital 22 cases had been treated with antitoxin. Four of these were doubtful cases of diphtheria and 3 of them were bacteriologically examined, with the result that no bacilli were found. Of the remaining 18 cases 7 were slight, there being a little membrane on the fauces only in 6 and in 1 a small quantity on the fauces and conjunctiva. Five of these 7 cases were not tested for diphtheria bacilli, but in 2 bacilli were found. Four of them were over ten years of age and all recovered. Of the remaining 11 cases 5 were classed as severe and 6 as very severe; 10 of these had tracheotomy performed and 1 was intubated; all had well-marked membrane and clinical signs of diphtheria. In 4 of them a bacteriological examination was not made, while in 7 typical bacilli were found to be present, their ages varied from eight years old downwards. At St. Bartholomew's Hospital in 1893 32 cases of diphtheria were submitted to tracheotomy—of these, 20 died and 12 recovered; in 1892 31 cases were tracheotomised—of these, 21 died and 10 recovered; the average, therefore, was one life in three tracheotomies. Of the 10 cases treated by antitoxin in which tracheotomy was performed only three died, the average of recovery, therefore, being doubled. They had found that the cases which came into the hospital at the latest period were not necessarily the most fatal.

Mr. GEORGE TURNER remarked that the fact that the bacillus was not discovered in the discharges from certain of the patients did not prove that the cases were not diphtheritic. It was certain that patients with sore-throats were more liable to contract diphtheria than those with healthy throats, and, therefore, if patients with sore-throats had been placed in a diphtheria ward and had not developed the disease, that would be to a certain extent in favour of the view

that the sore-throat from which they were suffering at the time of admission was itself of diphtheritic nature; for diphtheria was a very contagious disease, and though a second attack in the same individual was not unknown, yet undoubtedly one attack of diphtheria did for a considerable time confer immunity against a second.

Dr. BURNEY YEO asked if any attempt had been made to estimate the period of the disease at which the treatment was commenced. Dr. Roux had laid stress upon the fact that when the treatment was commenced early he got much better results than when it was begun later. Unless the treatment was begun early the toxic symptoms were not likely to be relieved, and the conditions of cure might be gone. He asked surgeons to explain why in this country intubation was so much less used than tracheotomy. Dr. Roux had expressed the opinion that the future treatment of diphtheria would be antitoxin and intubation.

Mr. LENNOX BROWNE asked Drs. Washbourn and Goodall and Mr. Card to state what was the mode of death in the percentage of cases that died. He had treated five cases with antitoxin. One of these had died thirty-one hours after injection and the other fifty-four hours after from suppression of urine, and in each of the other cases there had been what might be called a temporary suppression. He noticed a curiously rapid reduction of the glandular swelling after the antitoxin treatment, and this was important, for formerly suppurative adenitis occurred in 4 per cent. of the cases and was responsible for many deaths. He likewise inquired what was the average date of death in fatal cases and what was meant by "simple ulceration of the throat with discharge from the nose."

The meeting was then adjourned till Friday, Dec. 21st.

## OPHTHALMOLOGICAL SOCIETY.

*Plastic Cellulitis of the Orbit.—Hydatid Cyst of the Orbit.—Osteoma of the Conjunctiva.—Formol as a Hardening Agent.—Papillary Conjunctivitis.*

AN ordinary meeting of this society was held on Thursday, Dec. 13th, Dr. D. ARGYLL ROBERTSON, President, being in the chair.

Mr. GEORGE LAWSON described five cases of Plastic Cellulitis of the Orbit. In four of the cases there was no pus, and in one a little pus was formed at the close of the case and escaped through one of the exploratory incisions which had been made into the orbit. Of the five cases three died, one had to have the eye removed, and one recovered with impaired sight. The symptoms were pain in the orbit, œdema of the eyelids, and proptosis, coming on shortly after the first symptoms, with increasing impairment of sight. The temperature was high, being from 101° to 107° F. The symptoms rapidly increased in severity, the eyelids became purplish red, shining, and œdematous, and the upper lid tightly stretched over the protruding globe. There was pain in the orbit, varying in intensity, and restlessness. If the symptoms were not relieved by treatment the patient became delirious, then comatose, and died. In none of the cases had the patient received any injury and in none was there any trace of syphilis. In four of the cases the cellulitis was confined to one orbit, and in one there was cellulitis of both orbits. Four of the patients were women and one a young man. Mr. Lawson's impression was that those cases were due to septicæmia, but in three he was unable to trace whence the septic matter came. In Case 3 the cellulitis of the orbit was preceded by acute tonsillitis, and to this was probably due the orbital cellulitis. In Case 5 the patient was distinctly suffering from pyæmia before the cellulitis of both orbits came on. She had a pyæmic rash on the face, high temperature (103·4°), and pain in all her large joints; but the source from which the pyæmia originated could not be determined. Mr. Lawson said that in the female he felt certain that septicæmia occurred more often than was suspected from septic materials supplied from the vagino-uterine tract; and he thought that some of the so-called rheumatisms to which women were so much more prone than men were really septicæmia, probably induced from this source.—Mr. TWEEDY said he regarded all these cases as being very grave. In one case, seen by himself and Mr. Lawson recovery had occurred after free division of the upper eyelid to the orbital margin, which greatly relieved tension. Swelling subsided and the movements of the eyeball were ultimately re-established and the sight almost completely restored. One case had been the subject of an operation on the lacrymal duct, and the nasal mucous membrane had been cauterised in the other. He laid much stress on the existence of previous injury.—Mr. HULKE thought it a matter of regret that there had been no necropsy in these cases. The question was unsettled as to whether the orbital cellulitis was primary or was secondary to a thrombosis of the ophthalmic vein or cavernous sinus or to meningitis. Some of the milder cases followed influenza or measles, and these for the most part recovered.—Mr. CRITCHETT referred to one case he had shown to the society some years previously, which was supposed to depend upon retained molar teeth, and had subsided on their removal. He agreed with Mr. Tweedy as to the necessity for free division of the lid.—Dr. BRONNER said he had seen cellulitis of the orbit following injury to the nose.

Mr. LAWFORD then read notes of a case of Hydatid Cyst of the Orbit. The patient was a girl aged seventeen years, who in September had pain and prominence of the right eye, some displacement of the eye downwards, limitation of movement, some œdema of the lids, and congestion of the conjunctiva. Vision was $\frac{6}{18}$. The optic papilla was swollen, the retinal veins tortuous, and there were a few retinal hæmorrhages. The symptoms had been present two months. After ten days the patient was admitted to hospital, when a deeply seated tumour could be felt behind the trochlea. The tumour was cut down upon, an exploratory puncture made, a thin clear fluid was withdrawn, and the tumour collapsed. The incision was enlarged, the wall of the cyst seized, and the whole cyst was easily withdrawn entire. The characters of the fluid were those of hydatid, but no hooklets, scolices, or daughter cysts were found. The eye quickly regained its position, the sight returned, and its movements become normal, except that it remained divergent, probably from damage to the internal rectus. Two months later there was no sign of return of the growth. Mr. Lawford advocated early removal; he thought the tumour should be exposed and opened or its contents withdrawn, and the cyst should then be removed entire if possible.—The PRESIDENT mentioned a case of the kind which he had treated by puncture and removal seventeen years ago. He considered the defect of movement in the case under consideration was due rather to interference with the nerve-supply than to accidental division of the internal rectus.—Dr. ROCKLIFFE quoted one case in which he had been obliged to excise the eye owing to the patient putting off the operation. The cyst suppurated and was removed.—Mr. JOHNSON TAYLOR referred to a case in his own practice in which there was a cyst at the upper part of the orbit; there was some doubt whether it might not be a meningocele. It was tapped, and the fluid not being meningeal it was subsequently removed.—Mr. LAWFORD, replying, said there was difficulty in distinguishing between hydatid cyst and meningocele, but it was always safe to tap the cyst and examine the fluid.

Mr. MARSHALL read a paper on Formol as a Hardening Agent. Formol was introduced by Professor Leber; it was supplied under two names—formol or formaline. A 10 per cent. solution of this was best suited for hardening purposes. If, after removal, an eye was immersed in this fluid for twenty-four hours it became perfectly hard and could be cut easily; the eye retained its natural fresh appearance, the cornea and lens were transparent, the iris was normal, blood and pus were unchanged in appearance, the vitreous was unaltered, and the retina and choroid remained *in situ*. There was no need to freeze the eye in order to cut it, as was necessary after hardening in Müller's fluid.—The PRESIDENT thought that as a hardening agent it was almost perfect.—Mr. JULER had found it very satisfactory. An eye had on one occasion been put into a full strength solution of formol by mistake, but it had not been harmed.—Mr. LINDSAY JOHNSON said he had used it before Leber introduced it, but had abandoned it for other agents which he thought superior. Formol precipitated metallic silver from solutions of its salts; and by precipitating silver in the tissues it might be very useful.

Dr. ADOLPH BRONNER (Bradford) read notes of a case of Papillary Conjunctivitis of the Left Eye due to the prolonged internal use of Arsenic. The patient, a young man aged twenty-two years, suffered from chronic eczema of the skin. In July he began to take arsenic in pilules of one milligramme. For two months he had been taking twenty-four pilules daily, when the eyes became red and very irritable. There was a peculiar slight œdematous condition of the conjunctivæ and of the lids. Boric acid lotion and cocaine drops

relieved the symptoms for a time. In two weeks the patient called again. There were pinkish, small, hard, irregular papillary growths of the conjunctiva of the left upper lid, most marked at the upper end of the tarsus. In spite of the local application of sulphate of copper the growths did not seem to diminish for fourteen days. The arsenic was then discontinued and, under treatment, the growths grew much less. The use of arsenic frequently gave rise to conjunctivitis, but there were no cases on record in which papillary growths had formed.—The PRESIDENT considered it doubtful whether the arsenic was the cause of the papillary growths. Had it been so, they should have appeared in both eyes.

The following cases and card specimens were shown :—

Mr. LANG : A case of Cataract with Crystals in the Lens, with Microscopical Specimens.

Mr. H. WORK DODD : (1) A New Pince-nez ; (2) a case of Congenital Lens Opacity.

Dr. BRONNER : (1) Wire Shield for Use after Cataract Operations ; (2) Benno's Writing Paper, with Raised Lines, for the Use of the Blind.

Mr. G. LINDSAY JOHNSON : (1) Removal of Lenses in a case of Myopia ; (2) Symmetrical Markings in a case of Lamellar Cataract.

Mr. N. C. RIDLEY : A case of Congenital Coloboma in the Macular Region.

Mr. W. J. CANT : Large Sarcomatous Tumour of the Right Side of the Brain.

Mr. DONALD GUNN : Case of Tuberculous Iritis.

## HUNTERIAN SOCIETY.

*Treatment of Skin Diseases by Thyroid Extract.*

AN ordinary meeting of this society was held in the London Institution on Nov. 28th, Mr. CHARTERS SYMONDS, President, being in the chair.

Dr. FRED. J. SMITH showed a patient convalescent from Typhoid Fever after some weeks' continuous treatment by bathing.

Dr. ARTHUR DAVIES exhibited a series of lantern slides representing patients suffering from Myxœdema, Psoriasis, and other Skin Diseases before and after treatment by thyroid extract.

Dr. P. S. ABRAHAM brought forward a patient suffering from Lupus Vulgaris of the Face, who had exhibited marked improvement under thyroid feeding. The patient, a girl, had been taking three tabloids a day until quite recently. She had also until lately been treated with cod-liver oil, and had used an ointment containing oleate of mercury, salicylic acid, and oxide of zinc. The treatment had already lasted six months, and it would be continued till the part was quite healed. This was the third case of lupus treated in this way by Dr. Abraham ; the other two patients showed an improvement which had been maintained. Of 55 cases of psoriasis in which thyroid gland was administered, some of the patients had benefited, but the majority had not, and the general results were disappointing. He had tried the remedy in two cases of leprosy. One of these patients thought himself very much benefited—at any rate, he did not become worse in the course of twelve months ; the other patient was in an advanced stage, and had since died. The late Dr. Rake gave the tabloids to five patients at the Trinidad Leper Asylum. His conclusions were not favourable, but his supply of the remedy was insufficient, and the patients who took it had already been affected for several years. Dr. Abraham knew of a female suffering from nearly complete alopecia areata, in whom the administration of thyroid gland had been followed by a very general sprouting of hair on the scalp, eyebrows, and elsewhere.

Mr. E. C. KINGSFORD mentioned that in a female patient under his care, suffering from Eczema of the Face and Arms of three years' standing, whom he treated with injections of thyroid extract, five minims every third day, no effect was produced on the eczema, but the patient became very ill and thin, and an abscess formed at the place of the last injection. One of his brothers, who thought himself too corpulent, took three tabloids daily. He soon lost six pounds in weight, and complained that he had got the "staggers," but recovered perfectly when the tabloids were discontinued.—The PRESIDENT had seen a female suffering from exophthalmic goitre, who became extremely ill in consequence of using thyroid extract, but improved as soon as it was stopped.

Replying after the discussion, Dr. DAVIES said that the thyroid remedies should be regarded as specific in myxœdema and cretinism, the result being nearly always successful. In his opinion the disease was at first aggravated, and the treatment should be continued for at least two months after thyroidism had been established. Neurotic persons were not good subjects for thyroid treatment and were liable to become worse. In myxœdema $\frac{1}{12}$th of a gland had produced toxic effects. Ninety minims of the extract alluded to equalled one gland ; one of the tabloids was equivalent to one-sixteenth of a gland.

## NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.

*Bacteriological Diagnosis of Diphtheria.*

A MEETING of this society was held at the Great Northern Central Hospital on Dec. 13th, the President, Dr. J. G. GLOVER, being in the chair.

Dr. JAMES GALLOWAY read a paper on the Bacteriological Diagnosis of Membranous Inflammations of the Throat. The speaker based his remarks on a series of eighty cases recently examined by him. Commencing with a consideration of the difficulties lying in the way of making accurate clinical diagnoses in cases of diphtheritic affections, a criticism was made of the various terms made use of to designate these affections. The conflict of opinions held by members of the profession in reference to the virulence of diphtheritic disease of the throat and larynx, the extraordinary difference in the death-rate of the disease in different epidemics, and especially the difference of view as to the efficacy of various remedies were quoted as facts showing the variety in membranous affections of this region, and also that no accurate means had been available to allow of correct classification of these diseases up to the present time. The question of the symptoms of experimental diphtheria, and what might now be called pure diphtheria, in the human subject was then discussed, and the symptoms of these compared with other membranous diseases of the throat and larynx. It was stated that none of the signs or symptoms observed could be regarded as of absolute diagnostic value in differentiating true diphtheria from similar affections, with the exception of the characteristic diphtheritic paralysis—a symptom too serious to be permitted to supervene if it might be prevented, and occurring too late to be of value in early and efficient diagnosis. The characters of the exudation having been considered, the speaker went on to say that it was only by a recognition of the organism or organisms causing the disease that a trustworthy basis for diagnosis and for the classification of these diseases could be obtained. Various pathogenic organisms discovered in diphtheritic affections were mentioned and described. The following were those specially noted : (1) bacillus diphtheriæ (Klebs-Löffler), (2) streptococcus pyogenes, (3) staphylococcus pyogenes aureus, (4) staphylococcus pyogenes albus, (5) diplococci (described by different observers), (6) micrococcus of Talamon-Fraenkel, (7) pneumococcus (Friedländer), and other organisms. The characters of these were demonstrated, their pathogenic properties were described, and mention was made of their probable *rôle* in diphtheritic affections. In this connexion the subject of mixed infections of the throat was alluded to and the possible increased virulence produced by some of the associated micro-organisms mentioned. Easily adopted methods for the purpose of distinguishing the micro-organisms having been shown, the speaker stated that early accurate diagnosis was possible only by bacteriological examination, and that this test would also supply trustworthy methods for the formation of a new classification of the diseases under consideration. In view of new methods of treatment now under trial the importance of accurate bacteriological examination was especially insisted on, and attention was drawn to the unreliable character of many of the cases and statistics now being published for want of this precaution. The paper was illustrated throughout by means of the lantern and by typical pure and mixed cultures of the organisms obtained from cases of suspected diphtheria.

Mr. LENNOX BROWNE spoke of the importance of recognising, not only the true bacillus diphtheriæ, but also associated micro-organisms, and mentioned the views held especially as to the association of the streptococcus pyogenes.

Dr. GAYTON referred to his experience of the disease from the clinical aspect during his association with the

Metropolitan Asylums Board. He especially emphasised the necessity of regular examination of the throats of nurses and attendants in diphtheria wards, and the advantage of retaining the throat in as healthy a condition as possible so as to render the various micro-organisms as little assistance as possible in the matter of infection.

Dr. D. S. DAVIES spoke of the advantages of systematic examination of cases of diphtheria from the point of view of public health, and stated that the authorities in Bristol had made arrangements for the bacteriological examination of cases by the public health department of that city.

Dr. GLOVER, after a few remarks by Dr. BAILEY, concluded the discussion, remarking on the increase of the disease, during his experience in North London, in frequency of cases and in severity of manifestations.

## NORTH-WEST LONDON CLINICAL SOCIETY.

*Unusual Pigmentation.—Acromegaly.—Nasal Disease.—Congenital Syphilitic Ulceration of the Tongue.—A Nævus treated by Electrolysis.—Progressive Muscular Atrophy.*

A MEETING of this society was held on Dec. 12th, at the North-West London Hospital, Dr. MILSON being in the chair.

Dr. SIBLEY showed two cases of Unusual Pigmentation. The first case was that of a widow, the mother of eight children, forty-two years of age. She had ovaritis six years ago, and peritonitis one year and a half ago. She had been nervous and losing strength for three years, and blood spots began to appear on her lips. She had at the present time pigmentation spots on the lips and hard palate. Her pulse was rapid, but there was no cardiac disease. Dr. Sibley thought the pigmentation had to do with pelvic conditions, and compared the case to some lately reported by Dr. Champneys. The second case was that of a woman twenty years of age. She had pigmentation of the face, axillæ, hands, and areolæ. She, too, suffered from dyspepsia, nervousness, and prostration, and had a very rapid pulse. There were some spots of pigmentation on the buccal mucous membrane. Dr. Harry Campbell, Dr. Gill, Dr. Guthrie, and Dr. Milson joined in the discussion.—Dr. SIBLEY, in reply, said he had not entertained the idea of scurvy in these cases.

Dr. HARRY CAMPBELL showed a case of Acromegaly which he believed was the best specimen now living. He was about to propound the theory that acromegaly was essentially a reversion to the anthropoid type.—Dr. ABRAHAM did not agree with the theory.

Mr. MAYO COLLIER showed a case of Nasal Disease causing severe neuralgia of four or five years' duration. The patient's teeth had been removed, the antrum explored, and every effort made to localise a cause. The neuralgia was on the right side and very severe. The anterior nares were occluded, but the probe enabled him to detect dead bone. He removed a polypus as large as a Barcelona nut, and after this a piece of dead bone covered with granulations. A simple alkaline lotion was used, and the patient made uninterrupted progress, except for one or two slight relapses attributed to the irritation in the healing process.—Dr. CAGNEY desired to emphasise the importance of examining the nose in cases of infra-orbital neuralgia. He mentioned the case of a woman who had suffered extreme and uninterrupted pain of this kind for a period of twelve years. She came to him at the Hospital for Epilepsy and Paralysis for advice as to an operation. In view of the serious character of the operation generally advocated, he resorted first to the use of all the drugs commonly employed in such cases, but without benefit. He then consulted Mr. Horsley, who thought that excision of the infra-orbital nerve within the orbit afforded a prospect of relief, but advised in preference the use of a constant current. This was tried, and when applied every twenty-four hours was found to be entirely effective. But such treatment can be only palliative and is not easily obtained.

Mr. JACKSON CLARKE showed two children of one family. The first exhibited the rare condition of Congenital Syphilitic Ulceration of the Tongue. Its nature was attested by an accompanying interstitial keratitis, by the character of the teeth, and by the maternal history. The younger child showed the result of treatment of a Nævus at the side of the nose by electrolysis. He regarded electrolysis as useful for the removal of small nævi, but chiefly as a preliminary to excision when it reduced hæmorrhage. The ordinary port wine marks he thought might also be treated by electrolysis.—Dr. Cagney, Mr. Collier, and Mr. Brodie joined in the discussion.

Dr. GUTHRIE showed a case of Progressive Muscular Atrophy, which, he believed, also exhibited signs of tabes. Three years ago the patient had broken his right arm. Shortly after there were weakness and wasting in the muscles of the right hand and forearm, and later the left limb was similarly affected. The patient had had syphilis. The tabetic signs were Argyll-Robertson pupils, lightning pains, girdle sensation, and a loss of knee-jerks. The condition was probably syphilitic disease of the anterior and posterior external columns in the upper part of the cord.

## LIVERPOOL MEDICAL INSTITUTION.

*Removal of Large Sarcoma.—Amputation at the Hip-joint for Sarcoma.—Lead Poisoning.—Anæmia associated with Flagellated Protozoa in the Blood.—Orbital Neuralgia.—Radical Cure of Hydrocele.*

A MEETING of this society was held on Dec. 6th, Mr. CHAUNCY PUZEY, President, being in the chair.

Dr. ALEXANDER showed a Large Mixed-celled Sarcoma removed from the neck of a patient seventy-six years of age; it weighed five pounds. A small nodule, situated midway between the angle of the jaw and the symphysis and close to the bone, was first noticed thirty-five years ago. It was only within the last few years that it had grown to the present enormous size. Its pressure effects necessitated its removal, which was done quickly and without much loss of blood by the use of numerous clamp forceps. The internal jugular vein had to be sacrificed.

Dr. ALEXANDER then showed a case of Amputation at the Hip-joint for Sarcoma. The patient was a man forty-eight years of age. Twenty months ago he sprained his knee on board ship; eight months ago he injured the same knee and a swelling formed in the popliteal space. At a hospital in Calcutta some arteries were tied, the swelling was stated to have been injected with "some black stuff," and finally the leg was amputated just above the knee. He was admitted six months ago under the care of Dr. Alexander with what appeared to be an inflamed stump, but which on closer investigation turned out to be a small round-celled sarcoma.

Mr. PAUL showed also a case of Amputation at the Hip-joint for Sarcoma. About two years ago the operation was performed on a man forty years of age. There was no shock from the operation, and the patient left the hospital in seven weeks quite recovered. Mr. Paul considered that the amount of shock following secondary amputation was more a question of loss of blood than the number of inches removed. He had performed seven secondary amputations at the hip joint; five in persons under twenty years old for tuberculous disease and two above that age for sarcoma. All made an excellent recovery, which he believed was due to a simple method of retaining the elastic tourniquet round the innominate bone and so absolutely controlling hæmorrhage during the whole operation. The method was demonstrated.—Mr. RUSHTON PARKER said that the elastic compression of the pelvis, so as to disarticulate bloodlessly at the hip-joint without displacement of the rubber tourniquet, was much more easy in children than in adults. He referred to a case which he brought before the institution nearly twenty years ago, where he had successfully used the plan spoken of by Mr. Paul. He agreed in part with Mr. Paul that the danger of amputations in the lower limb was probably not increased inch by inch the higher up the section was made, but he thought this applied to amputations for disease. In amputations for injury the danger increased with each advance towards the trunk, even in the absence of severe hæmorrhage.—Dr. Alexander, Dr. Boyce, Mr. Puzey, Mr. Thomas, and Dr. Barendt discussed these cases.

Dr. CATON showed a boy aged eleven years who had suffered from Vomiting, Colic Constipation, Epileptiform Attacks, and Great Muscular Wasting of the Arms and Legs, with Complete Wrist and Ankle Drop. Albumen and lead were present in the urine. There was scarcely any trace of a lead line on the gums. The drinking water he consumed contained three grains of lead to the gallon. The patient recovered under iodides, cod-liver oil, and the constant current. The second case, a man aged forty-eight years, had lost 3st. in weight in less than three years, had suffered from colic for a year, and for three

months from advancing paralysis of the arms with wrist drop. He had a marked lead line. It was discovered that the tea, coffee, and soup consumed by the man and his family were made with water taken from the kitchen boiler. This contained the usual lead worm. The water held in solution on the average two grains of lead per gallon. The patient's wife and child showed signs of lead poisoning.

Dr. BARRON related the case of a woman aged thirty-nine years suffering from Anæmia and a peculiar earthy complexion suggestive of malignant disease. She had formerly suffered from bleeding from a uterine fibroid, but this had ceased for some time. In August last the blood contained large numbers of flagellated protozoa—as many as eight or ten in the field of the microscope, $\frac{1}{12}$ oil immersion. She was treated with arsenic, aloes, and iron, and two months later appeared to be perfectly well. No protozoa could then be found.

Mr. R. J. HAMILTON showed a man thirty-two years of age suffering from Orbital Neuralgia. There was no history of rheumatism or syphilis. Pain began suddenly, nine months ago, after exposure to cold wind; it was very intense, paroxysmal in character, and of almost daily recurrence. The pain was situated in and behind the eyeball and in the upper and lower eyelids. The supra-orbital nerve had been divided, but without giving any relief; no drug seemed to have any effect on the pain. The eye was not red or irritable in any way; but there was a leucoma adherens of twenty years' standing which caused considerable interference with vision. Enucleation of the eyeball had been suggested. The Gasserian ganglion was thought to be the probable seat of the disease.—Dr. Carter, Mr. Bickerton, and Mr. Shears made remarks on this case.

Mr. THELWALL THOMAS drew attention to the percentage of Recurrence of Hydrocele after Injection (from 10 to 15 per cent.) and the many recorded accidents associated with this method. He advocated excision of the parietal tunica vaginalis, leaving only a narrow strip to which the skin could be stitched. The testicle formed a projection into the wound, but was rapidly covered over with lymph, which became organised. Three cases were recorded, one where incision and packing had failed. The patients were in hospital on an average seventeen days.—Mr. Puzey, Dr. Alexander, Mr. Parker, Mr. Paul, and Mr. G. Hamilton discussed this treatment. Most of the speakers appeared to be well satisfied with the injection method.

## BRISTOL MEDICO-CHIRURGICAL SOCIETY.

*Exhibition of Cases and Specimen.—Pyæmia from Middle-ear Disease.—Castration for Prostatic Hypertrophy.*

THE third meeting of the session was held on Dec. 12th, Dr. HARRISON being in the chair.

Dr. WALDO showed a patient with Primary Lateral Sclerosis and resulting Spastic Paraplegia and Deformity.—Dr. Michell Clarke made some remarks.—Dr. WALDO also showed a patient with Lichen Pilaris.—Mr. PAUL BUSH exhibited a man with very extensive Necrosis of Skull.—Dr. Harrison, Mr. Morton, Mr. Carr, and Dr. Edgeworth remarked on the case.—Mr. C. MORTON showed a patient with Gummata of Skull and Limbs.—Mr. A. W. PRICHARD exhibited a portion of a Catheter which he had removed by means of a supra-pubic operation from the bladder of a man who had had a calculus removed some years before.—Mr. Augustin Prichard, Mr. Paul Bush, and Dr. Aust Lawrence made remarks on the specimen.

Mr. MORTON reported a case of Pyæmia from Middle-ear Disease in which the internal jugular vein was ligatured.—Mr. Harsant discussed the symptoms and mode of operating.—Mr. Paul Bush mentioned a similar case.—Dr. Clarke and Dr. Elliott remarked on the case.

Dr. J. SWAIN brought before the society a case of Castration for Prostatic Hypertrophy, and advocated this operation in the worst forms of cystitis due to enlarged prostate.—Dr. Edgeworth and Dr. Aust Lawrence continued the discussion.

## PLYMOUTH MEDICAL SOCIETY.

*Exhibition of Cases and Specimen.*

A CLINICAL EVENING of this society was held on Wednesday, Dec. 12th, Mr. WHIPPLE, President, being in the chair.

Dr. LAWRENCE FOX showed a man thirty eight years of age suffering from Acne Variioliformis. Thirteen years previously pimples appeared in the middle line of the forehead, which extended to the margin of the hair and thence all over those parts of the face uncovered by hair. White, depressed scars with pigmented edges were now seen. Ethylate of sodium had been applied to the active patches and nitrate of mercury ointment after the removal of the scabs. There was no specific history.—Dr. FOX also handed round photographs and showed a case of Idiopathic Muscular Atrophy in a boy sixteen years of age. In infancy he had been breast-fed, and was healthy till eighteen months old, when he had a fit, with twitching of the right leg and arm, from which he recovered. Three months afterwards a second fit occurred, with implication of the left side, but he subsequently recovered. He, however, gradually lost flesh and power in all his limbs. He was now a helpless cripple, with wasted and flexed extremities and an immobile, vacuous expression; he could sit upright when placed in position. There were involuntary micturition, constipation, and an erratic temperature, ranging from normal to 103° F. Dr. FOX then exhibited a girl thirteen years of age with right Hemiplegia, which followed a convulsion four days after a fall on the right side of the occiput one year and nine months ago. She now complained of pain in the right hand and had varying clonic spasm of the thumb muscles; there were scars at the angles of the mouth, pegged and notched teeth, and impairment of vision and hearing.

Mr. C. E. RUSSEL RENDLE demonstrated two cases of Mules' Operation: one performed in March, 1894, for injury showed an excellent result; the other was done for disease in October, 1893.

Mr. RENDLE then showed for Mr. ELLIOT SQUARE a man twenty-six years of age who developed Exophthalmos immediately after a blow on the right side of the head. The right eye was the more protruding of the two, and under chloroform started from the orbit; he had diplopia on rising in the morning, the retinal veins were engorged, but vision was equally good in both eyes.

Mr. WHITEFORD exhibited a Clip of stout silver wire devised by him for fitting into a rubber catheter from the perineal wound in urethral sections for the purpose of retaining it *in situ*, and explained the mode of introduction.

## SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

*Exhibition of Cases.—Indurative Mediastino-pericarditis.—Uræmic Asphyxia.*

A MEETING of this society was held on Thursday, Dec. 6th, the President, Mr. MAKEIG JONES, being in the chair.

Mr. SNELL introduced two patients: (1) a young girl with Palsy of the External Rectus and Double Papillitis, with a history of diphtheria (?); (2) a boy with Double Ectropion treated on one side by temporary union of the eyelids and on the other by shortening the palpebral fissure.—Mr. SNELL also showed sections of Eyes hardened with Formol.—Dr. RUXTON showed microscopic sections of an Endothelioma of the Cerebral Cortex.—Dr. PORTER showed a man aged thirty-two years with Enlargement of the Lymphatic Glands in the Neck, the Left Axilla, and the Mediastinum, producing considerable pressure effects. There was a four months' history. There was no anæmia or apparent enlargement of the spleen. The chief symptom was intractable diarrhœa with light-coloured stools. There was nothing in the history or general symptoms pointing to tubercle, malignant disease, or syphilis. In commenting upon the case Dr. Porter thought it might be a case of Hodgkin's disease in a comparatively early stage.—The PRESIDENT showed a case of (?) Cerebral Tumour.—Dr. BURGESS showed a man thirty-four years of age with a Gumma near the upper end of the left fissure of Rolando. The patient had an attack of syphilis twelve years ago, and had suffered from severe headache and Jacksonian epilepsy during the last three months; there were double optic neuritis, weakness of the right leg, and exaggerated reflexes on the right side when the patient came under observation three weeks ago. The right disc (which was least affected) was clearing up under large doses of iodide of potassium.

Dr. GWYNNE read the notes of a case of Indurative Mediastino-pericarditis in a boy, and showed the specimen. The principal features of the case were orthopnœa, general anasarca, great enlargement of the veins of the neck, and great swelling of the face and neck, the eyes being so swollen

that he could hardly open them. The immediate cause of death was apoplexy. A post-mortem examination revealed a clot on the right lateral ventricle of the brain. An enormous mass of inflammatory tissue filled the mediastinum and pressed upon the bloodvessels, especially the superior vena cava. The pericardium was enormously thickened. No valvular lesion or ascites was present.

Dr. PEARSON read notes of the successful treatment of a case of Uræmic Asphyxia by the Inhalation of Oxygen, and of the Status Epilepticus by Bleeding. The uræmic patient was a woman forty-one years of age, with a dry skin and general anasarca, who had been unable to lie down for several days, and who had not passed daily more than one or two teaspoonfuls of urine for a week. When the oxygen was administered she appeared to be dying from asphyxia. The result was immediately very good. A steam bath was then given, and one-third of a grain of pilocarpine injected hypodermically. In a few minutes saliva began to flow, and the patient broke out into a profuse perspiration. On the following day six ounces of urine were drawn off by the catheter; the sp. gr. was 1035, it was one-fourth albumen, and there was a large number of tube casts. Thirty ounces were passed on the second day, and six pints daily during the following three days. The urine was normal and the patient was downstairs a week afterwards. The second case was that of a man fifty-six years old suffering from secondary syphilis. There had been no previous fit. After being three hours in a state of coma, with convulsions at intervals, he was bled to a pint. Within a few minutes consciousness returned, and in a quarter of an hour he was able to sit up.

The President, Dr. Adair, Mr. Atkin, Dr. Burgess, Dr. Ruxton, Mr. Richard Favell, Dr. Clarke (Chesterfield), Dr. Hargreaves, and Dr. Kite took part in the discussions.

## NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

*Erb's Paralysis.—Progressive Muscular Atrophy following Injury.—Club-foot.*

A MEETING of this society was held on Wednesday, Dec. 5th, Dr. J. S. TEW, President, being in the chair.

Dr. HANDFORD showed a boy aged eleven years suffering from Idiopathic Muscular Atrophy. All the voluntary muscles were affected except those of the face. The electrical reactions were diminished quantitatively, but unaltered qualitatively; his knee-jerks were absent; sensation was quite unaffected. The nutrition of the skin and subcutaneous tissues was good. No other member of the family was affected. At the age of five years the boy had typhoid fever, and for two months after convalescence was established was unable to walk and had to be carried about. He improved so as to walk, but fell down if he tried to run. The upper extremities gradually became affected. At the age of nine he suffered from scarlet fever. Since then the muscular wasting had made more rapid progress, and for a year he had been unable to stand or to rise in bed.—Dr. HANDFORD also showed a man aged thirty-one years with wasting affecting chiefly the upper arm muscles, deltoids (posterior portions), pectorals serrati, latissimus dorsi, hamstrings, and vasti. The muscles of the face, hands, and forearms were normal. Sensation was quite unaffected. The knee-jerks were unequal and diminished. The pupil reactions and retinæ were normal. The muscles contracted to faradaism and there was no reaction of degeneration. The patient had had gonorrhœa, but denied syphilis. Eight years ago, while a soldier in India, he fell, and his arms were severely strained by holding the bridles of two horses pulling in opposite directions. About a year later his right arm began to fail, and six months ago the left arm was affected. The wasting had progressed very rapidly. He had difficulty in walking and a high-stepping gait. The wasting of the muscles mentioned was very great. It was possible that the injury produced a neuritis which had spread to the spinal cord and excited a chronic polio-myelitis.

Mr. GRAY read a paper on Club-foot. He confined himself to the congenital form of talipes equino-varus, the most frequent, and at the same time he thought it was the most difficult form to cure, and the form also about whose treatment there was the greatest diversity of opinion. He pointed out that the deformity was one involving more or less every structure in the foot. He traced the development of a marked case, especially dwelling on the changes from the normal occurring at the mid-tarsal joint, between the astragalus and os calcis on the one hand and the scaphoid and cuboid on the other. He showed that the deformity was kept up, not by the tendons, but by the overgrowth of the ligaments between the scaphoid and astragalus, blended with the anterior part of the internal lateral ligaments of the ankle-joint and the insertion of the tibiales muscles, Parker's astragalo-scaphoid capsule. He deduced from this the futility of tenotomy of the tibiales, but advised manipulation without plaster of Paris, if possible, in the slighter cases. He described the operation of syndesmotomy, and also Buchanan's operation, but rather preferred Phelps' open method of division of the astragalo-scaphoid capsule. He also showed the uselessness of operation unless followed by manipulation, and was opposed to the use of mechanical apparatus.—Dr. Tew, Dr. Tresidder, Dr. Handford, Mr. Macmillan, Mr. Steavenson, and Dr. Waring discussed the subject, and Mr. Gray replied.

## PATHOLOGICAL SOCIETY OF MANCHESTER.

*Traumatic Epilepsy.—Dried Specimens of Brains.—Enucleation of Femoral Aneurysm.—Adrenal Tumour.—Bilateral Spermatocele.*

A MEETING of this society was held on Wednesday, Dec. 12th, Dr. SHERIDAN DELÉPINE being in the chair.

Mr. THORBURN described a case of Traumatic Epilepsy of eighteen years' duration which was due to a depressed fracture of the skull. The specimen shown consisted of the bone removed together with a large bony spicule which was found at the operation (performed three months ago) projecting into the motor cortex. The epileptic seizures have very much diminished in number since the operation.

Dr. TREVELYAN exhibited some dried specimens of Brains. 1. A brain from an old man who had died from the effects of an accident showed a marked wasting of a convolution in the neighbourhood of the motor speech centre. There was considerable asymmetry between the two frontal lobes; no symptoms were known to exist during life. The brain showed six months after the hardening scarcely any general shrinking. 2 and 3. Specimens of Intra-cranial Growths: one a diffuse cortical gumma; the other a glioma of the cerebellum. 4. The Right Hemisphere from a case of Acute Myelitis. The colour here was well preserved, and the general shrinking slight.

Mr. THORBURN mentioned a case of Femoral Aneurysm which had occurred in the stump of an amputated leg; it had been successfully removed by enucleation. About four months after the operation sudden perforation of the common iliac artery on the same side had occurred without apparent cause. The specimen was shown.

Dr. KELYNACK showed preparations of a Tumour of the Right Suprarenal Capsule. The growth involved the whole gland, which was uniformly enlarged to the size of a small Tangerine orange; it weighed one and a half ounces. Microscopically it presented the characters of a simple epithelial growth; it appeared to be one of the rare examples of an adrenal adenoma, also called adrenal goitre. It was found in a man aged sixty-three years, who died from cerebral hæmorrhage. It was the only tumour in the body.

Dr. KELYNACK also showed specimens of Bilateral Spermatocele from a case of double encysted hydrocele of the epididymis, from a man aged sixty-two years. The cyst on either side appeared to have developed from the head of the epididymis. The left, which was the larger, contained numerous spermatozoa.

Card specimens of Ligatured Medium-sized Arteries and of Chylous Ascites in a Cat were shown by Dr. Delépine.

## MIDLAND MEDICAL SOCIETY.

*Exhibition of Cases.—Advisability of combining into One Disease various Catarrhal Affections.*

A MEETING of this society was held on Wednesday, Dec. 5th, the President, Mr. T. F. CHAVASSE, being in the chair.

Dr. CHRISTOPHER MARTIN showed a patient on whom

eight weeks previously he had performed Porro's operation for Impacted Labour due to Contraction of the Pelvis. She was aged twenty-nine years, pregnant at full term, and had been in labour for two days. She was 4 ft. 6 in. in height. The true conjugate diameter of the pelvis was only two inches and a quarter. Dr. Martin decided on Porro's operation and performed it without delay. The patient made a speedy recovery, being up on the twenty-fourth day and out of doors on the thirtieth. The child was born dead.—Dr. KAUFFMANN showed an unusual case of a woman aged thirty-eight years with marked symptoms and signs of Locomotor Ataxy, together with widespread painful skin sensations implicating the back of the trunk up to the fourth dorsal vertebra. These painful disturbances, which Dr. Kauffmann looked upon as being due to functional disturbance of the nerve cells of the posterior horns of grey matter, had existed for sixteen years and had started from a wrench of the back sustained at that time. The definite signs of posterior sclerosis—viz., ligature pains, girdle sensation, Romberg's sign, and absence of knee-jerks—commenced only six years ago. The dorsal pain had almost ceased to trouble the patient, and the pains in the legs had become much less severe under treatment. There was no discoverable trace of syphilis, and no cause for the disease other than the old injury could be found. Pathologically the case suggested the consideration that the old injury had interfered with the nutrition of the posterior portions of the spinal cord, and that in the postero-external white columns of the lumbar region this altered function had led on to sclerosis.—Mr. EDGE showed a large Cystic Kidney which he had removed from a woman by abdominal nephrectomy. The patient made a good recovery.

Dr. FOXWELL then read a paper on the Advisability of combining into One Disease various Catarrhal Affections which at present received the names of the portions of the body attacked. The name he suggested for this disease was "catarrhus." The reasons he gave for this unification were: 1. These affections were evidently constitutional in nature. 2. In all of them the general character of the disease was the same, though naturally modified in local detail according to the part chiefly affected. 3. One of these affections never, or with extreme rarity, occurred alone; most commonly three or more arose together. 4. They all occurred under similar climatic and meteorological conditions. 5. They were mutually contagious—that is, any one of them did not necessarily reproduce itself in a fresh subject, but with equal frequency reproduced some other of the series. 6. If contagious they must be due to a germ; pneumonococcus had been found in them all, and cultivations of this germ had set up conditions closely resembling some of them — e.g., acute pneumonia and enteritis; still, the position of pneumonococcus was not established, and it might well be that the causative germ was yet to be found. 7. Some individuals inherited a tendency to fall victims to this disease as they did to tubercle, though predisposition was here far less important than in tubercle. In conclusion, Dr. Foxwell gave a description of the disease as he saw it, enumerating the various affections which he included under it.

## ROYAL ACADEMY OF MEDICINE IN IRELAND.

### SECTION OF SURGERY.

*Appendicectomy.—Adenoid Vegetations in the Naso-pharynx.*

A MEETING of this Section was held on Dec. 7th, Mr. THORNLEY STOKER, F.R.C.S. Irel., President, being in the chair.

Mr. MYLES read a paper on Appendicectomy, and gave details of two cases. The first was that of a soldier aged twenty-eight, who had been suffering from repeated attacks of appendicitis during the previous eight months. A small swelling had formed above Poupart's ligament in the right iliac fossa, and Mr. Myles cut down on this and found a thickened, curved, and adherent appendix, covered with a blanket of adherent omentum. The latter was divided between double ligatures and the appendix removed by the circular flap method. The patient eventually recovered. The second case occurred in a man aged twenty-seven, of remarkably fine physique. He had suffered from repeated attacks of pain, vomiting, &c., and ultimately a swelling developed in the right iliac fossa. He refused operation at first, and when subsequently, owing to inability to practise his profession from repeated attacks of pain, he consented to be operated on the swelling had completely disappeared; but the localised tenderness was very marked. The operation was performed in the private hospital, Charlemont-street, and the cause of the pain was found to be a number of flat, sharp-edged bodies, calcareous in character, lodged in a very long appendix. The appendix was removed as in the first case; but, in addition, the stump was invaginated into the cæcum and the edges of the depression brought together with a few Lembert sutures. The result of the operation was a complete success. The sutures were removed on the twelfth day, and on the fifteen day the patient left the hospital. Since then he has led a very active life, is quite free from pain, and has gained over a stone in weight. Mr. Myles discussed at some length the questions of diagnosis, time for operation, and the treatment of the parietal wound, so as to obviate the dangers of a ventral hernia occurring at the seat of operation.—The PRESIDENT said that accuracy of diagnosis between typhlitis and perityphlitis was extremely difficult. When a diagnosis of appendicitis can be made, he agreed with Mr. Myles as to the propriety of early operation.—Mr. CROLY thought that there was great difficulty in the diagnosis between perityphlitis and appendicitis. He mentioned a case in which he operated, but before reaching the peritoneum pus came and the case subsequently got well.—Sir W. STOKES thought that abdominal pain in the region of the appendix, together with rise of temperature, did not justify opening the abdomen and excision of the appendix.

Mr. KENDAL FRANKS read a paper on Adenoid Vegetations in the Naso-pharynx. After giving a short *résumé* of the history of this condition, he described the usual symptoms which indicated the presence of these growths, and drew attention to the numerous reflex symptoms which were liable to be attributed to other causes, but which disappeared when the naso-pharynx was cleared. These adenoid vegetations were very frequently associated with hypertrophied tonsils and with enlargement of the pharyngeal follicles. In cases where these growths gave rise to troublesome symptoms the only treatment for them was their removal. The most important point was to remove all the growths thoroughly. This he did not consider could be effectually done unless the patient were placed under the influence of chloroform. Nitrous oxide gas was not sufficient. He always adopted Rose's position, pushed the anæsthetic to the abolition of the faucial reflexes, scraped the growths away with Gottstein's curette, and plugged the post-nasal space with pledgets of cotton wool dipped in tannic acid. These pledgets were removed in a few moments whilst the patient was still under the chloroform and all hæmorrhage was found to have stopped. He advised the removal of the tonsils, if enlarged, at the same time, and preferred Luer's guillotine to Mackenzie's. He, however, had the prongs removed from the guillotine and instead seized the tonsils with a forceps, which he exhibited, which drew the tonsil out of its bed previous to its division by the guillotine. He considered that there were few operations which gave such good results. He did not recommend the use of the artificial finger-nail, and did not consider that the ordinary nail was sufficient for the purpose.—The PRESIDENT thought that post-nasal growths were just as common among the better class of society as among the poorer. He considered that they were within the compass of every practising surgeon and did not alone belong to a throat specialist. He believed that there was a necessity for complete anæsthesia, but that a great mortality attended the use of chloroform in this operation. He considered that the remedy for that was Mr. Rose's position, with the head hanging over the end of the table, as adopted by nearly every surgeon of experience.—Mr. Woods, Mr. Doyle, and Surgeon-Major Daly joined in the discussion.

ERRATUM.—In the account printed by us last week of the proceedings of the Brighton and Sussex Medico-Chirurgical Society at their meeting on Dec. 1st an error of omission occurred. After the words (in line 22, p. 1426) "to the deep parts" the following passage should have been inserted:—"The limb could not be abducted or rotated outwards. It was thought to be a case of Addison's keloid.—Mr. JOWERS showed a most interesting specimen of a partially separated intussusception. A child aged three was brought to the out-patient room of the Sussex County Hospital with a history of prolapsus ani. Gut was projecting

from the anus, which looked much like a prolapse, but a finger could be passed through a hole by the side of the mass. There was" &c.

# Reviews and Notices of Books.

*Die Spuren der Römischen Aerzte auf dem Boden der Schweiz.* Von CONRAD BRUNNER, M.D. (*The Traces of the Roman Physicians and Surgeons on the Soil of Switzerland.* By CONRAD BRUNNER, M.D.) Zurich: Albert Müller. 1894.

FEW chapters in the history of medicine are more interesting than that relating to the military surgery and hygiene of classical antiquity. It is only of late years, however, that it has been adequately treated—thanks in chief measure to the profounder and more scientific archæology of which the pioneers have been mostly Germans. Every country in which the Romans held sway has been made the scene of excavations in quest of materials illustrating its then civil and military life, and Switzerland has had her full share of this resuscitating and reconstructive labour. A new attraction has thus been added to "the play-ground of Europe," and her local museums and private collections now contain an amount of treasure trove that renders her past not less interesting than her present. Prominent among these relics are the instruments that formed the *armamentarium* of the Roman practitioners of medicine, instruments chiefly surgical in their nature, and, from the character of the Roman occupation, illustrating in nearly every case the military department of the profession.

A distinguished *privat-docent* of the Zurich Medical School, where his lectures—systematic and clinical—on theoretical and operative surgery are deservedly popular, Dr. Conrad Brunner has found leisure to explore his country's medical past and, by a series of special and eminently scholarly studies, to place the history of its healing art during the Roman period in full and instructive light. Beginning with a rapid survey of the medical and sanitary services of the Roman army, in which his obligations to Dr. René Brian, and still more to Dr. H. Frölich, are adequately acknowledged, he comes to Switzerland, its frontier garrisons and inland barracks, and dwells on the importance of Vindonissa, the present Windisch, at the junction of the Aar and the Reuss, as a natural stronghold, commanding on the one side the two Italian highways (from the Great St. Bernard and from Como), and on the other the communications with the defensive points of the Rhine and the Danube. It was here that one of the most interesting monuments of the Roman occupation has been found—the inscription to Tiberius Claudius Hymnus, surgeon of the Twenty-first Legion. Evidence, local and collateral, is adduced to show that the date of the inscription must lie between 60 and 70 A.D., and a series of quite legitimate and ingenious inferences follows as to the presence of surgeons in the Roman legions in the first century, and as to their status, professional and social.

The other two inscriptions of a like character found in Swiss soil are also made the subject of acute and instructive comment; but the medical reader will perhaps form a more vivid impression of the practice of surgery in the Roman army from the detailed description of the various instruments then used by the operator. These are mainly probes, identical with those which the surgeon of the present day uses, and their description and discussion lead Dr. Brunner into a most interesting retrospect of those instruments, from those described by Hippocrates or catalogued in the National Museum of Naples down to the present time. Illustrative tables in photo-lithography are annexed to give greater clearness to the exposition—a practice equally applied to all the other articles in the *armamentarium* unearthed from Swiss soil. Pincers, scalpels, needles, catheters, instrument cases, medicine chests, and medical stamps are similarly brought before the reader, described professionally and historically, compared with their modern equivalents, and classified in the order of time. The materials are thus enriched for acquiring a more perfect knowledge of Roman surgery than has hitherto been possible, supplementing, as Dr. Brunner's monograph does, such elaborate treatises as Dr. Émile Bégin's "Lettres sur l'Histoire Médicale du Nord-Est de la France," Sir J. Y. Simpson's well-known Memoir on the Medical Officers of the Roman Army, the full and detailed appendices in the "Armamentarium Chirurgicum," and the Pharmacopœia of classical antiquity contained in the splendid edition of Celsus by Dr. De Renzi (two vols. 4to, Naples, 1851–52). We hope to see Dr. Brunner's labours imitated by the medical scholars of other countries where the Roman army was quartered for centuries, notably Spain, Algeria, Egypt, Syria, the Balkan Peninsula, and the Lower Danube. Only by such researches, systematically prosecuted, can we arrive at the completest possible realisation of the military medical service of ancient Rome—a service which, if at all as efficient as that of the army itself, must have embodied much to interest, and even perhaps to instruct, the nineteenth century practitioner.

*A Text-book of Inorganic Chemistry.* By G. S. NEWTH, F.I.C., F.C.S., Demonstrator in the Royal College of Science. London: Longmans, Green, and Co. 1894.

HOWEVER adversely the reviewer may be disposed to criticise the plan of this book, he will be convinced at any rate of the author's power to describe facts and to elucidate theory. For ourselves, we are inclined to believe that the plan is a good and useful one only so long as the reader rigidly follows the hints given by Mr. Newth on the page next to the preface. Otherwise, however, the order in which the subjects are treated may bewilder the beginner, since at the outset, in Part I., he is confronted with 142 pages of closely written matter, dealing exclusively with theory, classification, and general properties. It is not until Part II. is reached (page 150) that the practical study of the "four typical elements—hydrogen, oxygen, nitrogen, carbon, and their more important compounds" is commenced. Then follow the chapters, in Part III., on the remaining elements, which are divided into groups based upon the periodic classification. Oddly enough, it is Chapter 5 (Part I.), as it is Proposition 5 in Book I. of Euclid with regard to geometry, in which Mr. Newth begins to discuss the *pons asinorum* of chemistry—the atomic theory—in considering which he is bound to refer to the properties of many elements and compounds not yet described. The student would solve the puzzle more easily, we think, if the "piece" (if we may so express it) describing the "four typical elements" (Part II.) could be dropped in, as it were, at the end of Chapter 4, Part I. This course, in fact, is really what he recommends in his "Hints to Students"; but it is probable that when the reader is enjoined to turn from one section to another in this way—sometimes over 100 pages—he will do so with inconvenience, and no doubt with some impediment to his study. There is no fault to find with the author's rendering of both theory and fact. Indeed, the general narrative is charmingly and clearly written, and especially is this so in regard to experimental details, which was the feature also of the excellent book issued not very long ago by the same author, and entitled "Chemical Lecture Experiments."[1] This text-book will afford a capital and reliable companion to the student attending a course of lectures on inorganic chemistry.

[1] Reviewed in THE LANCET, Dec. 3rd, 1892.

## LIBRARY TABLE.

*By-Paths of Bible Knowledge.* XXI.: The Sanitary Code of the Pentateuch. By the Rev. C. G. K. GILLESPIE, A.K.C., A.C.P., Member of the Society of Biblical Archæology, the International Congress of Orientalists, and the International Congress of Hygiene and Demography, Certified Sanitary Inspector, Associate of the Sanitary Institute, &c. London: The Religious Tract Society. 1894.—Expositions of the strictly historical portions of the Bible and works on Jewish antiquities are of more general and lasting interest than much of the abundant literature which has been allotted to the Old Testament. Notwithstanding the survival of the Hebrew language and the continuity of tradition, our knowledge of the social life of the Jews in early days and even of the natural history of the Bible is in many points sadly defective. Moreover, their history is not illustrated for our benefit by any such architectural and other remains as have been left by the contemporary civilisations of Mesopotamia and Egypt. Hardly any of their characteristics are more remarkable than the long retention of their ancient observances and their racial individuality, notwithstanding the extinction of their national life. Much will be done to account for this fact, considered merely from the natural or mundane standpoint, by evidence that an important part of the ceremonial law has a sound physiological and scientific basis, and an intrinsic usefulness apart from its special theocratic obligation. Mr. Gillespie takes this for his theme, and possesses unusual qualifications for such a research, being a clergyman, archæologist, linguist, and practical sanitarian. He has now published his views in a small, well-written, popular treatise, forming one of a series to which the late Sir J. Risdon Bennett contributed a work on the Diseases of the Bible. Mr. Gillespie avoids any reference to specified forms of disease, except in a passage suggesting that the four cases described in Leviticus, chapter xiii., may represent elephantiasis tuberculata, elephantiasis anæsthetica, inflammatory spots, and morphœa alopeciata. Circumcision is not mentioned. As might have been expected, the longest chapter is devoted to the permissive and prohibitory ordinance relating to animal food. Discussing the six animals specially prohibited by name, he observes that camel's flesh, though edible, is rank, hard, and unwholesome; the rock-badger (coney), hare, and mouse are multiparous; and the pig, more than any other animal, is symbolical of uncleanness, and its flesh is now known to produce trichina and tapeworm. In accounting for the prohibition of weasel's flesh he apparently overlooks the fact of the weazel belonging to the carnivora, none of which are permitted. On the subject of fish he remarks without comment that the conditions requiring both fins and scales exclude the eel, the skate, aquatic reptiles, and shell-fish. In chapter vi., entitled "Sanitary Inspection," there is a passing allusion to the modern Jewish system of examining butcher's meat previously to sale. A welcome and not unreasonable addition to the book would have been some account of the practice of modern Jews in espect of such apparently prohibited articles as turtle, oysters, eels, skate, escallops, lobsters, and the like. The author's treatment of the subject, although concise, is interesting and instructive.

*A Clinical Manual: a Guide to the Practical Examination of the Excretions, Secretions, and the Blood, for the use of Physicians and Students.* By ANDREW MACFARLANE, A.B., M.D., Instructor in Neurology and Diseases of the Chest in the Albany Medical College. New York and London: G. P. Putnam's Sons. 1894.—About one-half of this little volume is devoted to the chemical and microscopical examination of the urine. Much attention is given to the tests for albumen and sugar, and numerous processes are described, the causes of uncertainty or failure being explained in each case, and the necessity for confirmation of results being judiciously enforced. The picric acid test for albumen is not mentioned except in connexion with an approximate quantitative process. A saturated solution of this acid is, however, an extremely convenient and sensitive reagent for common use, as was pointed out by Sir George Johnson several years ago. Exact quantitative processes are not described, except the alkaline hypobromite method of estimating urea. The centrifugal apparatus for rapid separation of deposits is explained and illustrated. There is a chapter on the Examination of the Contents of the Stomach, samples of which are obtained either by Ewald's method of expression through an œsophageal tube or by Einhorn's "stomach bucket." Several pages are devoted to microscopical examination of the blood.

*A New Diphtheria Chart.*—We have received from Messrs. Adlard and Son, printers, of Bartholomew-close, E.C., a chart for recording facts observed in the serum treatment of diphtheria, drawn out by Dr. W. Jobson Horne. Dr. Horne's scheme for keeping the records of the special treatment side by side with the ordinary information afforded by a temperature chart, is simple and at the same time as far as possible exhaustive. The age is given in months as well as years, which is certainly right, taking into consideration the average age of the probable patients. The Centigrade scale is placed by the side of the Fahrenheit to facilitate the reading of continental records. Space has been allotted for recording complications and sequelæ and the results of bacterioscopic investigation. In systematic note-taking it is not very easy to obtain uniformity in keeping records, as thoughtful people are sure to hit upon a scheme of their own. But there can be no doubt that the general adoption of a uniform plan would add greatly to the value of the records of the antitoxin treatment by facilitating their collation for statistical purposes. The price of the chart is 1*s.* per four copies.

## JOURNALS AND REVIEWS.

*The Journal of Anatomy and Physiology.* Conducted by Sir GEORGE HUMPHRY, Sir WILLIAM TURNER, and Dr. J. G. MCKENDRICK. Vol. XXIX., October, 1894. London: Charles Griffin and Co.—This part contains the following papers: 1. The Central Connexions and Relations of the Trigeminal, Vago-glosso-pharyngeal, Vago-accessory, and Hypoglossal Nerves, by William Aldren Turner, M.D., which contains anatomical details of much physiological importance. 2. Abnormal Kidneys from the Domestic Pig, by David Hepburn. 3. A case of Absence of the Right Kidney, by Thomas Dwight. 4. Note on a Nerve piercing the Walls of an Artery, by John M. Ogle; the artery was the left vertebral, the nerve one of the roots of the left hypoglossal. 5. On the Osteology of certain Cranes, Rails and their Allies, with Remarks upon their Affinities, by R. W. Shufeldt. 6. The Fifth Annual Report of the Committee of Collective Investigation of the Anatomical Society of Great Britain and Ireland for the Year 1893–94, reported by Arthur Thomson. 7. Observations on the Urinary Bladder and Urethra; Part II., the Nerves, by Joseph Griffiths. 8. An Account of some Rare Nerve and Muscle Anomalies, with Remarks on their Significance, by G. Elliot Smith. 9. Note on a Peculiar Arrangement of the Supra-scapular Vein, by G. Elliot Smith. 10. Histological Changes induced in Sympathetic Motor and Sensory Nerve Cells by Functional Activity, by Gustav Mann. 11. A polemical paper by William Sörenson on the Production of Sounds by Fishes and on the Function of the Weberian Ossicles.

*Illustrated Modern Art and Literature* (Iliffe and Son, 3, Bride-street, E.C.) contains many beautiful examples of

colour-printing, both incorporated with the text and in full-page plates, as supplements suitable for being framed.

*The Picture Magazine* (George Newnes and Co., Southampton-street, Strand), in addition to abundant illustration of modern subjects, has a specialty of old prints and pictures, many of which are very quaint and comic. A page of Isaac Watts' manuscript in facsimile will interest readers of his "Hymns." The same firm publishes a weekly called *The Million*, and books of nursery rhymes, all crowded with coloured pictures.

### DIARIES.

Messrs. CASSELL and Co. send us *Letts's Office Diary and Almanac for 1895*. This is a substantial quarto volume, having each page headed for one day of the year. Prefixed are about fifty pages of general information—such as lists of official personages of all classes, a copious directory of foreign, colonial, and country banks, life insurance companies, &c.—*Letts' Medical Diary for 1895* maintains its reputation for portability and convenience of reference. Each fourth page shows the seven days of each week of the year, the intervening pages being suitably ruled for the insertion of patients' names. The oblong shape is convenient for the pocket.

Messrs. CHARLES LETTS and Co., 3, Royal Exchange, E.C., send us a large selection of their well-known Diaries, Visiting Lists, Calendars, Blotting-pads and Calendars combined, and other useful memorandum books. Their *Improved Office Diary and Note-Book* appears in several sizes and bindings, with or without blotting interleaves, and contains a large amount of useful information prefixed in tabular form. *Charles Letts's A B C Medical Diary and Visiting List* has columns for patients' names with corresponding rulings for each day of the month and week, obstetric engagements, and many other pages for memoranda. The "Excerpta Therapeutica," bound up with it, is a useful description of all the newer and more important drugs. *Charles Letts's Hospital Nurses' Diary and Handbook for 1895* is tastefully bound in scarlet cloth with gilt lettering, and provides six or seven lines for memoranda for each day of the year. It contains tabular information useful to nurses and an interesting sketch of the rise and progress of trained nursing.

Messrs. WILLIAM COLLINS, SONS and Co. (London and Glasgow) provide a varied assortment of convenient diaries, suitable both for the office and for the pocket. Their large *Scribbling Diary*, interleaved with blotting-paper, shows at each opening all the days of a week separately dated. The *Commercial* and *Octavo Diaries* are similar in arrangement, but smaller. Of their *Pocket Diaries* there are about half a dozen different patterns and varieties, well bound and gilt-edged.

## New Inventions.

### A NEW ARTIFICIAL EYE.

WE have had submitted to us for our opinion an artificial eye of a novel character. It is well known that a not inconsiderable number of those who have undergone removal of the eyeball are from one cause or another (contracted socket, for example) unable to wear the ordinary artificial eye. Indeed, it is not uncommon for considerable irritation and soreness to be set up, so that, for sympathetic reasons, the medical attendant is obliged to forbid the use of the familiar glass eye. We have described in our columns the method adopted by Dr. W. J. Collins to conceal the deformity resulting after a successful removal of an extensive orbito-maxillary sarcoma, and think it is due to the inventor of the apparatus we are now noticing to say that we had our attention drawn to it before we printed Dr. Collins' interesting case,[1] otherwise it might be conceived that the present idea was an adaptation of Dr. Collins' method. The eye submitted to us by Mr. T. Partridge Salt, of Corporation-street, Birmingham, is held in position by attachment to a pair of spectacles, and rests lightly against the lids, having flesh-coloured eyelids

carefully moulded around the glass portion of shape and tint to accord precisely with the requirements of each individual case. It is made entirely of non-corrosive material, and is in no way acted upon by the tears or secretions of the eyelids. We can understand the invention to be very useful in removing from a not very rare class of patients a distressing sense of unsightliness.

### "RESPIRO-REGENERATOR, OR PERFECT INHALER."

WE have received a specimen of the "Respiro-regenerator, or Perfect Inhaler." It is a cylindrical metal vessel, between one and two pints in capacity, with a handle at the side and a close-fitting, perforated lid, from the middle of which rises a long caoutchouc mouth-piece. Within the vessel is a recess which receives a wide-mouthed glass bottle for the medicament to be inhaled. Obviously it will answer well for most of the Vapores of the British Pharmacopœia, as it may be used either with or without hot water, and the breathing through the mouth-piece is convenient and free. When the inhalation is concluded the bottle is stoppered, and the contents are in readiness for the next occasion. The inventors and manufacturers are Messrs. J. G. Ingram and Son, London Indiarubber Works, Hackney Wick.

### THE "MOVILLETTE" GLASSES.

WE have had brought to our notice certain eyeglasses made in the pince-nez shape for which, among others, a great advantage is claimed. They are said always to maintain their horizontal position; and we have tested the assertion and find that under all ordinary circumstances they do so.

The security of immovable foci in the pince-nez shape for astigmatic patients is, we believe, a distinct novelty, though it has been secured by very simple means. The bridge between the lenses is rigid, and the nose is grasped, but with no uncomfortable tightness, by little plaquets obtaining their pressure from separate springs. The "Movillette" glasses may be obtained from the inventors, Messrs. J. Raphael and Co., Wholesale Opticians, 13, Oxford-street, W.

[1] THE LANCET, Sept. 29th, 1894.

# THE LANCET.

*LONDON: SATURDAY, DECEMBER 22, 1894.*


Is it not possible for the General Medical Council to do a little more than it does to inform registered practitioners of the laws—for their resolutions have this character—which they have laid down on the subject of unqualified assistants? Nothing is more pitiable than to see different practitioners brought before the Council meeting after meeting to answer charges of unduly using unqualified assistants. The case is the harder as it differs only in degree and in almost accidental circumstances from that of hundreds of other practitioners who go on undisturbed and unchallenged. One great difference between those who are brought to account and those who are not is that the latter seem to read the medical journals and to acquaint themselves with the discussions, if not the resolutions, of the Council on the subject, and so contrive to keep within the limits of the law. It is lamentable to think that there are practitioners who do not endeavour to make themselves acquainted with the requirements of the Council; but the conclusion that they do not is inevitable from the way in which they come up year after year protesting their ignorance of the well-reported cases of covering. Home Secretaries, the Registrar-General, and coroners alike look to the General Medical Council to use its powers to prevent registered practitioners from giving any sanction to such practices. We are of opinion that the Council ought to send a copy of its resolutions to every registered member of the profession. Anything in the decisions of the Council affecting the medical authorities is immediately and directly communicated to them by the Registrar. We maintain that the same consideration should be shown to each member of the profession. The resolutions of the Council on this subject may be seen in full in the advertising columns of THE LANCET, Dec. 1st, 1894, p. 83. They certainly should be studied by all practitioners who have or contemplate having unqualified assistants. The following is the principal of these resolutions, passed on April 21st, 1883:

"That the Council record on its minutes, for the information of those whom it may concern, that charges of gross misconduct in the employment of unqualified practitioners in respect of the signing of medical certificates required for the purposes of any law or lawful contract are, if brought before the Council, regarded by the Council as charges of infamous conduct under the Medical Act."

On Feb. 27th, 1888, the Executive Committee, without attempting to make a formal definition of the misconduct in question, reported to the General Medical Council that, in its opinion:

"A registered medical practitioner would render himself liable to the censure of the Medical Council in case of the employment of an unqualified assistant in the practice of medicine, surgery, or midwifery on behalf and for the benefit of such registered practitioner, either in complete substitution for his own services or under circumstances in which due personal supervision and control are not, or cannot be, exercised by the said registered practitioner."

Practitioners should also study the cases themselves on which the Council has pronounced judgment. We are not insensible to the fact that the employment of unqualified assistants has been the practice of the profession from time immemorial; but there are grave public and professional reasons why it should be reduced to a minimum. A medical practitioner is a qualified and registered person, and when the public apply to him, or to any establishment under his name, they have a right to expect that they are getting authorised medical assistance. For a medical man to place an unqualified assistant in another house than his own, and perhaps at a distance, having his name on it, and to allow the assistant to attend for days together patients in all diseases and stages of disease, even where the practitioner attends in time in fatal cases to sign a certificate, is to deal unjustly with the patient. The case is, of course, much graver where the distance is long and where the practitioner signs certificates in regard to cases which he has not seen. It is difficult to say in any given case what would be the judgment of the Council, but these resolutions are enough to make every practitioner his own guide. They contemplate *his* supervision and *his* responsibility in every case, and they make the employment of an unqualified assistant outside the practitioner's house a matter of great risk. Instances occur in which the unqualified assistant is practically master of the situation and owner of the practice. He buys it and sells it, and he writes letters in which he makes little secret of the position which he claims towards the qualified gentleman whose services he seeks to "cover" his thoroughly indefensible and audacious position. No medical man has a right to complain if, after entering into relations of this sort with an unqualified practitioner, he finds himself censured and punished by the General Medical Council. The Council has no option but to condemn and punish in such cases. The public are deceived by a system in which an unqualified assistant is palmed off on them. In one recent case the unqualified assistant had had no regular medical training at all, and yet he was the one abiding element in the practice, while the registered practitioners who covered him came and went—two of them off the Register. These unqualified assistants do the work which qualified medical men should do, from whom the Council exacts such prolonged studies and whom the law subjects to such severe tests. Not only are the public deceived, but the profession is injured. These unqualified gentlemen, either as assistants or principals, are responsible for much of the cheap and undignified work which brings the profession into disrespect. There is the less excuse for students drifting into the position of permanent unqualified assistants as eleven years have elapsed since the General Medical Council passed its great resolution on the subject. It is due to the profession itself, therefore, that the Council should insist on the sharp line of demarcation between the qualified and the unqualified, and should not allow "the registered practitioner to enable the unqualified person to act as if he were duly qualified."

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THE General Medical Council was engaged on Tuesday, the 4th inst., in a discussion as to the registration of medical

students whilst still pupils at school. The present form of registration requires that the place and date of the commencement of medical study shall be certified by a master or a teacher, or an official in a medical school or hospital. The word "master" or "teacher" includes any registered practitioner whose pupil the applicant may be at the time of registration. The first year of medical education is mainly devoted under the five years' curriculum to the study of physics, chemistry, and elementary biology, and, in our opinion, should be rigidly restricted to these purely scientific subjects. Elementary anatomy is included in the first year's study by the Conjoint Examining Board in England, and this necessitates a student spending his first year at a medical school. For the examinations at the universities the non-technical sciences only are required, and consequently if a boy can be registered he may remain in the science division of his school and still reckon this year as the first year of medical study. In such cases only four years will be spent at a hospital or medical school, instead of the full five years laid down by the General Medical Council. Advantage was quickly taken by the authorities of St. Paul's School, Hammersmith, of this possibility of making a schoolboy a registered medical student. In 1893 six students were registered as private pupils of a gentleman who was a science master in the school, and who held the qualifications of M.B. and M.R.C.S. Eng., and these boys remained in pupilage in the school. Other schools to some extent followed the course taken by St. Paul's School. In addition to that school, the City of London School, Epsom College, Dulwich College, and Bradford and Sheffield Grammar Schools are already recognised as institutions where chemistry, elementary biology, and physics may be taught; but so far they do not seem to have had their schoolboys registered as pupils of a registered practitioner, and thus have not gained for them anything in point of time.

It is obvious that if the technical and science schools are examined as to their capacity and equipments in these elementary sciences there will be no reason whatever why boys should not learn them as well there as—and in many cases, from their being under stricter discipline, even better than—at a medical school. To meet these cases the General Medical Council has altered its form of registration so that the place and date of study can now be certified by an official of a university, school of medicine, or recognised teaching institution. The omission of the word "master" in the new form will evidently prevent a registered practitioner from registering his pupil or pupils unless he is also an official of a teaching institution. The General Medical Council will also require from the licensing bodies an annual list of the teaching institutions which they duly recognise. The Conjoint Examining Board in England expressly states that if these scientific subjects are studied at school five years of further medical study will still be required; but any other licensing body may require only four years. The Council, however, has now taken a decided step against this latter interpretation of its regulations by enacting that "a student who has previous to registration attended a course or courses of study in one or all of the subjects, physics, chemistry, or biology, in any university, school of medicine, or teaching institution recognised by any of the licensing bodies, may without further attendance be admitted to examination in these subjects, provided always that such course or courses shall not be held to constitute any part of the five years' course of professional study." Any student, therefore, who spends a year in learning science at his school is practically making for himself a six years' curriculum instead of one of five years. The University of London now grants its degree of Bachelor of Medicine four years after the passing of the preliminary scientific examination; but if the candidate has passed this as a schoolboy he will have to give an extra year to his professional subjects should the university authorities be compelled to carry out this new regulation. Five years is interpreted by the Council to mean fifty-seven months, so that a student registering in October may become qualified at the end of the summer session of his fifth year instead o waiting until the following October.

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THE arguments usually adduced for or against the notification of measles are no doubt well known to our readers, and although some time has elapsed since we last referred to the subject it must be admitted that the position of affairs in regard to the question remains practically unchanged. Unfortunately, the several annual reports of medical officers of health for the year 1893 which refer to the subject do so, for the most part, only in general terms, and the only common feature in them is the want of unanimity to which we have on other occasions drawn attention. The diverse opinions are due, no doubt, in no small degree to want of uniformity in dealing with cases notified. The mere enumeration of attacks cannot naturally be expected to exercise any charm either over the distribution of the disease or its case mortality; and, further, satisfactory statistical comparison can hardly be drawn when in on case notification is not adopted until an outbreak has obtained firm hold, or, on the other hand, where it is deferred until the outbreak is already on the wane. Indeed, anything approaching conclusive statistical evidence is most difficult to obtain, more especially when we have regard to the varying virulence and perhaps infectivity of different outbreaks. It will probably be remembered that in THE LANCET of July 14th of the current year we drew attention to a report by Dr. NIVEN of Manchester, which he made to his sanitary authority in consequence of several influential bodies in and around Manchester having petitioned the corporation to make measles notifiable. He sent a circular letter to many places where the notification of measles was or had been in force, and the answers he obtained were not such as, in his opinion, to justify him in recommending the notification of the disease in Manchester. He, however, has done much to diffuse amongst the public a knowledge of the danger of measles and the precautions necessary to diminish both its mortality and its spread. Similar steps have been taken by Dr. CHARLES PORTER of Stockport, who, in anticipation of a fresh outbreak of measles in his district, lately addressed a communication to the managers of all schools in the borough, inviting their coöperation in preventing its extension by instructing their teachers to notify any suspicious cases of the disease, more especially in the infants' department; and he also published and circulated a

handbill similar to that drawn up by Dr. NIVEN, setting forth the high fatality and infectivity of the disease &c. Although it would be difficult to say to what extent the result is due to the precautionary measures taken, it is satisfactory to know that there has been very little spread of the disease in the borough. Infection was introduced from the rural districts, but the disease was practically confined to the pupils of one private school where fourteen children were attacked by it. All the children who had not had measles themselves, or who had any brothers or sisters at home who had not had measles, were excluded from the school, and cautionary notices were left at each of the infected houses. Of course, it is just possible that the very severe epidemic which visited this borough in 1893 may have exerted very considerable protective influence on the younger children attending the schools; but, however this may be, Dr. PORTER has every reason to be satisfied with the method adopted. The result of a similar circular to that lately circulated, which was sent to the teachers of some of the principal elementary schools in 1893, was that 400 cases were in this way notified to the health department. And here we may say that, although there is frequently great difficulty in getting the parents or friends of the children to coöperate with the medical officer in regard to notification, there is generally little difficulty in obtaining the aid of teachers if they are personally assured that the source of information will not be revealed. As it is obvious that if the notification of measles is to be thoroughly effectual the dual system must be insisted upon, the education of the public is a very essential factor in paving the way for its enforcement. Dr. PORTER states in a recent fortnightly report that, having regard to the experience of other towns, he is not prepared to advise the complete notification of measles, but he suggests the desirability of notifying the first attack in every house. It seems to us there might be some difficulty in carrying this suggestion into effect under the provisions of the Infectious Diseases (Notification) Act, 1889, inasmuch as in it no option is left to sanitary authorities or medical practitioners in the matter of paying for or notifying every case; and presumably measles, if added to the list of notifiable diseases, would be subject to the same restrictions. We feel, however, that if this experiment is tried in Stockport Dr. PORTER will insist upon its being in force for a sufficiently long period for accurate deductions to be drawn from it. To sum up the position as to the notification of measles at the present time, it may be said that, as regards statistical evidence of its advantage or disadvantage, there is still a lamentable want of uniformity, but undoubtedly a growing feeling exists that the notification of this disease impresses upon the public the necessity for proper precautions and enables sanitary authorities to take steps towards diminishing its spread; and this may, we think, be said altogether apart from isolation being provided for the notified cases.

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WE have so strong a conviction of the powerful influence that our national system of mortality statistics—mainly the creation of the late Dr. WILLIAM FARR—has exercised on the progress of public health in England that we hold it to be of the first importance that public faith in these statistics should not be weakened by ambiguous terms, by false methods, and by unsound deductions. In view, therefore, of the importance of distinguishing trustworthy from untrustworthy mortality statistics we propose further to consider the fallacies involved in Mr. BIDDLE'S method, by which he arrives at the conclusion that the "comparative power of resistance" of children under the age of five years "to disease and death grows less year by year."

It is necessary, in the first place, to consider the facts on which this alarming conclusion with regard to child mortality in England was based; and, secondly, to examine the method by which the conclusion was derived from the facts. The well-known actuary, Mr. MILNE, in his article on "Human Mortality," contributed to the Encyclopædia Britannica, declared that a true death-rate must be determined from the annual number of deaths occurring at a given age or group of ages, among a given number living at the same age. The Registrar-General's death-rates are calculated in accordance with this axiom, and show that the annual death-rate among children aged under five years in England and Wales, which was 68·6 per 1000 in 1861–70, declined successively to 63·5 and 56·8 in 1871–80 and 1881–90. From these figures it is evident, as we recently pointed out, that in 1871–80 the mean rate of child mortality was 7·4 per cent. lower than it had been in 1861–70, while in the decade 1881–90 a further decline of 10·6 per cent. took place. Thus it is conclusively proved that the true incidence of mortality at the age group 0 to 5 declined during the thirty years 1861–90 at an increasing rate of decrease. So much for the facts.

How, then, does Mr. BIDDLE arrive at his "coefficients," which show increased incidence of child mortality? It must be freely admitted that the rate of decrease of child mortality during this period of thirty years has not been equal to the rate of decrease of mortality at the later age periods. It follows, therefore, that child mortality, compared with adult mortality, is relatively higher, although actually lower, now, than it was before the marked decline in our national death-rate set in. Mr. BIDDLE therefore divides the annual death-rate of children under five years of age by the annual death-rate at all ages, and calls the result or quotient the "coefficient of incidence." We have objected to this term because it conveys no definite idea of its construction or meaning; and still more because the method of its production necessarily destroys, as we shall see, its value as a test of the real incidence of mortality. Mr. BIDDLE'S "coefficients" really only represent the relative proportion that the rate of mortality at any given age group bears to the rate of mortality at all ages. Therefore, as we know from the Registrar-General's death-rates that adult mortality has in recent years declined far more than child mortality, the so-called "coefficient" of child mortality has necessarily increased, notwithstanding the actual decline in the true rate of mortality.

In order to prove the fallacy involved in the attempt to use the "coefficient" as a test of the incidence of mortality, we need only note Mr. BIDDLE'S admission that his "coefficient" of child mortality has shown a tendency to steadily increase unless "an exceptional visitation, such as influenza, affects the other groups." Thus, the "coefficient" method involves the absurdity that an increased mortality from influenza, or any adult disease, invites the

assumption of an increased "power of resistance to disease and death" among children; whereas the beneficent discovery of a prophylactic for phthisis or cancer would, on the other hand, apparently justify his most gloomy conclusions as to the supposed decrease of the "power of resistance" in the age group 0 to 5. Mr. BIDDLE, we feel sure, would admit that there would be nothing "hideously wrong" in an increase of his "coefficient of incidence" of child mortality due to the extinction of phthisis or cancer. It may, moreover, be interesting to him to know that, if the present excessive rate of mortality among children under the age of five years could be reduced to a third of its present figure, the "coefficient" for this age period would scarcely indicate this startling decrease of child mortality, as he suggests, because the death-rate at all ages would thereby be necessarily reduced to a marked extent.

It is needless, as it is impossible, here to discuss what the death-rate of childhood ought to be, certainly much lower than it is; but it would be sheer optimism to expect that it should not exceed the mean rate of all ages. Neither need we feel either surprise or despair that sanitary effort has influenced it less than the death-rate at later age groups. It is well to bear in mind, however, that, while according to the latest published English Life Table for England and Wales (1876–80) the mean rate of mortality under five years was 61·0 per 1000, the rate according to Dr. FARR'S Healthy District Life Table was only 39·4, and according to ANSELL'S Table, based upon upper-class experience, did not exceed 28·2. Child mortality in England and Wales, judged by the Registrar-General's statistics for a long series of years, is decidedly decreasing, but we do not hesitate to agree with Mr. BIDDLE that there is "something hideously wrong" in the still terribly excessive waste of child life in this country.

# Annotations.

"Ne quid nimis."

## THE SERUM TREATMENT OF DIPHTHERIA.

IT was, perhaps, a little unfortunate that on last Friday evening there should have been read simultaneously before two of the leading medical societies papers bearing on the same subject—proof, however, of the lively interest which is awakened in it. Naturally that which attracted the larger audience was the one which dealt, at the Clinical Society, with the practical results of the antitoxin treatment. But those who were fortunate to hear the concise and clear exposition of the scientific side of the antitoxin question as given by Dr. Klein at the Epidemiological Society were also well repaid, for this paper may be said to have afforded the basis upon which this latest addition to therapeutic agents is founded; whilst the very carefully observed and recorded cases of Drs. Washbourn and Goodall and Mr. Card were the first fruits in this country of the use of the remedy applied on a large scale. Dr. Klein's subject was the Relation of Bacteria to their Toxines, and he advanced experimental proofs of the fact that the latter can be separated from the bodies of the bacteria themselves. By "antitoxin" is meant the change induced in the blood of an animal which has passed through an attack of acute infective disease, so that this blood becomes capable not only of arresting the growth of the specific bacteria, but also of neutralising the toxine they produce. The principle of the use of antitoxin is the transference to another animal of the immunity acquired by the one whose serum affords this protective power. Dr. Klein pointed out that there are three different theories of the production of antitoxines: there is the view of the French school that they are "defensive ferments" produced by the tissues; the view of the Munich school that they are actually related to the toxines themselves; and there is, thirdly, the possibility that the bacteria themselves play a part in the production of antitoxines. Although, then, there is much scope for conjecture as to the origin of this antitoxic property of immunised serum, the fact of its occurrence is sufficiently established to justify its being availed of in the treatment of those diseases in which it has been discovered; and to the results already furnished in France and Germany, which afford encouraging hopes of its utility in diphtheria, must now be added those obtained at Homerton by Drs. Washbourn and Goodall and Mr. Card. The discussion upon their paper is not yet closed. It is to be resumed this (Friday) evening at a special meeting of the Clinical Society. It will be preferable, then, to defer any detailed commentary upon it; but we may point out that the series of cases in which the treatment was tried was a consecutive one, that the bacteriological and clinical observations were most exact, and that whilst the broad conclusion agrees with the results obtained by others—viz., that the case mortality was reduced to precisely one-half of that occurring in a similar number of consecutive cases prior to the introduction of this method—there were some points of difference noted from those of other observers. There is reason to believe that the society will take steps to inquire fully and impartially into the whole subject of this method of treatment, and we feel sure that this would be a step universally approved. An inquiry such as contemplated must perforce be a prolonged one, and must extend over a wide area if the conclusions are to be free from fallacies. There is one point in the treatment which should be brought prominently forward. It was urged by M. Roux and has been emphasised by Dr. Kossel—an abstract of whose recently published essay we give elsewhere. It is the importance of commencing treatment as soon as a diagnosis is made. It might even be advantageous to commence in all cases suspected to be diphtheritic in nature, and not to wait for the bacteriological confirmation of the clinical diagnosis. Moreover, the treatment should be pursued in every case, mild or severe. The former point is also emphatically insisted on by Dr. Kossel, who goes so far as to assert that if this be done, and the amount of antitoxin administered be sufficient, no case of diphtheria so treated should prove fatal. When we consider the novelty, as well as the necessarily tentative character of the method at present, it is interesting to find so strikingly concordant a reduction in the case mortality as has been exemplified so far in Berlin, Paris, and London.

## FATAL ACCIDENT WITH A "TOY" PISTOL.

IN the meaning of language there is nothing absolute, but every word is influenced by the force of its logical relationships. We are conscious, nevertheless, of something like disproportion when speech has little or no regard for these—when, for example, firearms capable of inflicting a fatal wound are described as "toys." It was a so-called toy pistol by which a young girl was accidentally killed a few days ago in Clapham. There was, the more the pity, nothing either very strange or novel in the occurrence but the repetition of a very old blunder — a loaded weapon, supposed to be unloaded, playfully discharged, and with fatal effect. Two lessons, if not more, may be easily read

in the brief and sad story of this accident. One impresses the fact, well attested and often ignored, that firearms are essentially destructive and dangerous, and must at all times be so regarded. No one with any pretence to ordinary discretion should ever lightly present a gun or pistol, even if unloaded, at the person, and every such weapon, if charged, should, like a poison, be appropriately labelled and kept in a safe place. Some regulation to this effect, if introduced by statute, might prove most useful. This brings us to the second suggestion. It is that no further time should be allowed to elapse before the Home Office takes up seriously the question of pistol registration and licensing. A tax of sufficient amount to restrict the purchase of these usually superfluous weapons ought to be no longer deferred, and there should, in our opinion, be added a prohibitory clause to prevent their purchase by juvenile amateurs in markmanship. We trust, therefore, that the Home Secretary's Bill, designed on these lines and postponed last year,[1] will be added at an early date to the national statute roll.

## SIR ARTHUR MITCHELL, M.D. ABERD., K.C.B.

IN the fulness of his mental, if not in all respects of his physical, powers, Sir Arthur Mitchell retires from the Scottish Lunacy Commission, a service to which for more than a generation he has dedicated professional accomplishments and administrative resources of a very high order. Few, indeed, have been the occupants of similar posts in Great Britain and Ireland who have left their mark more distinctly for good than this able physician and devoted public officer. Sir Arthur Mitchell has more than sustained the worthy traditions bequeathed by such predecessors as Sir James Coxe and Dr. W. A. F. Browne. His annual reports were enriched with the valuable critical discussions and practical suggestions which have always so honourably characterised those publications, and he widened the sphere of alienist medicine by introducing reforms which have proved successful, not only in the place where they were originally tested, but in many communities where they were subsequently adopted. He may be styled the creator of that residence of the insane in private dwellings which was introduced by himself in Scotland and has found so much acceptance elsewhere. This innovation he proposed and explained in a treatise which has become a medical classic. It was published exactly thirty years ago under the title of "The Insane in Private Dwellings," and formed the prelude to a long series of papers, the republication of which in a collected form will be welcomed even more in Continental and Transatlantic countries than in our own. To this work, we are happy to think, Sir Arthur Mitchell is understood to be devoting his well-earned leisure. In addition to his published works on the treatment of the insane, the addresses delivered by him as Morison Lecturer on Insanity to the Royal College of Physicians of Edinburgh have contributed much to the enlightened views on this subject which now prevail. He served on two commissions on criminal lunacy, and in 1889 he was chairman of a commission to inquire into the whole lunacy administration of Ireland. He has also done valuable work in other branches of science. He was particularly interested in the work of the Ben Nevis Observatory, and his contributions to medical meteorology and climatology have been numerous and important. Among these may be mentioned an elaborate research, in conjunction with Mr. Alexander Buchan, on the Influence of Weather on Mortality from Different Diseases and at Different Ages, and a paper on the Cause of Some of the Pernicious Effects of Polar Winds, with remarks on the method and scope of inquiries in Medical Meteorology. His lectures on Archæology and his book entitled "The Past in the Present" are valuable products of archæological research, and were highly appreciated by the Society of Antiquaries of Scotland, which on two occasions elected him to be vice-president. His conspicuous learning and talents gained for him the further distinction of being appointed Professor of Ancient History to the Royal Scottish Academy in 1878, vice-president of the Royal Society of Edinburgh in 1891–2–3, and a member of the Universities (Scotland) Commission. The honours bestowed on him by Mr. Gladstone in 1886 and by Lord Salisbury in 1887 were in recognition not only of his services to the State but of his scientific and literary merits as well. In view of the excellent work of which Sir Arthur Mitchell still finds himself capable, we congratulate him on the possession of that leisure which he will now enjoy, and also on the wisdom of that timely withdrawal from official activity by which he gracefully concludes his long and distinguished administrative career.

[1] THE LANCET, July 29th, 1893.

## THE CLUB SYSTEM IN CORK.

WE have already given our readers some account of the formidable dispute between medical men on the one hand, and the clubs on the other, in Cork. The contest still rages severely. The chief feature of it is the firmness and the unanimity of the profession in declaring that they will not be parties to the abuse of the club system any longer. It is declared that many persons in these clubs are in the enjoyment of incomes ranging up to £1000 a year. This is not to be endured. The medical men decline altogether to attend at club rates the families of those whose incomes exceed £200 a year. They are willing to attend families whose income is under £100 a year for 7*s.* 6*d.*, and those whose income is between £100 and £200 a year for 15*s.* Fuller particulars will be found in THE LANCET of Dec. 8th, p. 1329. Of course, we assume, midwifery is excluded from these terms, which are exceedingly moderate. The controversy with the clubs is carried on through the secretary of the organisation of medical men. We shall watch the results of the action of the medical men of Cork with close attention. The question of medical attendance in Ireland is a somewhat complicated one, to which we may revert soon. But it will be creditable indeed if the much-needed example of *esprit de corps* and effective organisation comes from Ireland.

## THE DIFFUSION OF SMALL-POX.

THE cases of small-pox newly arising in London last week again showed a decline, being only 3 in number; whilst for the fifth successive week no death was registered from the disease. No case remained under treatment in the Highgate Small-pox Hospital, and only 22 in the institutions of the Metropolitan Asylums Board, against 33, 31, and 32 on the three preceding Saturdays. The cases reported last week in the outer ring were few and scattered. In the Midlands Wolverhampton records 2 attacks and Burslem 1, whilst Birmingham had 30 fresh attacks and 3 deaths registered, the disease thus clinging to the city in a manner that is highly disappointing in view of the action of the town council and their advisers. A few widely separated attacks are reported from Lancashire, a death being last week registered in Birkenhead, and some four or five attacks having freshly occurred across the Mersey in Liverpool; but the disease has apparently obtained no great hold on the city. Westward the country generally seems free from small-pox, and northward the towns invaded last week were but few, Halifax being among the list with two or three attacks, one case proving fatal. In Dublin in the first week of the present month the admissions to the city hospitals numbered 31, being 6 under the admissions of the week immediately preceding. The patients discharged were 35 in number, and 91 remained under treatment on the 8th inst., a fall

of 10 on the total of the previous Saturday. The deaths in the week reached 6, of which 3 were of infants under one year of age, 1 of a child under five years of age, 1 of a young person under twenty years of age, and 1 of a woman between forty and sixty years old. All these deaths were of unvaccinated individuals. The deaths from small-pox in Dublin in five successive four-weekly periods ended with Dec. 8th have been 5, 9, 8, 11, and 13 respectively, and the admissions to hospital during the same periods 76, 58, 48, 108, and 110 respectively.

## THE METROPOLITAN HOSPITAL SUNDAY FUND.

ON Monday last the constituents of the Metropolitan Hospital Sunday Fund met at the Mansion House for the purpose of transacting the business which practically commences the Hospital Sunday year. Hospital Sunday for 1895 was fixed for June 16th, and the Council who so ably did their work during the past year were re-elected, with the Rev. C. H. Grundy, M.A., Vicar of St. Peter's, Brockley, S.E., to fill the vacancy caused by the death of the Rev. Canon Rowsell, M.A.; the Rev. Canon McCormick in place of Canon Pelham; and Sir George Robert Tyler, Bart., in the place of Sir Savile Crossley, Bart., who has deservedly been elected to a seat on the Committee of Distribution. Last year we had to lament a falling off in the amount of subscriptions received from all sources, and although the amount collected during the past year exceeds that collected during 1893, it still falls far short of the passing needs of the hospital. Perhaps the work of no other institution is carried out on a more economical basis than that of the Hospital Sunday Fund, a sum not quite amounting to tenpence in the pound covering the cost of collection and distribution, salaries, printing, and advertising. Under these circumstances there is every reason for liberality on the part of contributors to the Fund. A few more donations like that annually given by Sir Savile Crossley would soon enable the Fund to reach this ideal income and even go far beyond. A suggestion thrown out by Dr. Adler would, if properly carried out, largely augment the annual collections—namely, that ministers should not content themselves by preaching a sermon, but that prior to Hospital Sunday each congregation should form a small committee for the purpose of canvassing for additional contributions. The friendly rivalry thus promoted, not only amongst individual members of the same congregation but also between the different congregations, would, we think, prove a stimulus to increased energy. However this may be, we sincerely trust that next year we shall be able to report a total collection much more nearly commensurate to the requirements of the case. A report of the annual general meeting of the Fund will be found on page 1505.

## THE SHOP HOURS ACT.

IT is not often the public have occasion to complain that the provisions of a modern Act of Parliament are but "a dead letter" for want of a penalty attached to their non-fulfilment, but it would seem that such is the case with the Shop Hours Act of 1893, so far at least as the provision is concerned which requires every employer affected by the Act to exhibit in his shop a notice of the limitations imposed by the Act upon a shop assistant's hours of duty. The law is that no boy or girl under eighteen years of age may be employed for more than seventy-four hours in one week, and in order that the persons interested may be made aware of their rights the provision as to a displayed notice is added. But a Divisional Court of Queen's Bench has just decided that if the employer neglects his duty in this respect there is no way of coercing him to its performance. This is a very curious result of Parliamentary draughting, for it cannot be doubted that the intention of the Legislature was to make its rules enforceable by suitable penalties. But, upon the whole, the public are perhaps to be congratulated upon the result, for the alternative before the court was to hold the employer liable to a fine of £1 for every young person in his employ at the time when the offence proved against him was committed. The provision which thus falls to the ground is one that is very valuable and even important for the purpose of securing the effective working of the Act; but in these days, when excessive penalties are so much the fashion both with our own and foreign Legislatures, it is possible to await with some equanimity the amending Act, which will doubtless in due time be passed to supply the defect, and even to hope that the draughtsman who formulates the amending clause will be careful not to impose a fine of possibly ruinous amount upon the delinquent employer.

## ADDENBROOKE'S HOSPITAL AND THE CAMBRIDGE UNIVERSITY MEDICAL SCHOOL.

IT is proposed that Addenbrooke's Hospital should undergo certain alterations shortly, designed to make it a more fitting institution for the headquarters of the medical school of Cambridge University, now one of the largest medical schools in England. The consent of the authorities of the hospital is not likely to be withheld to so eminently desirable a plan. The General Board of Studies in the University has called attention to the fact that, under the present arrangements, the Regius Professors of Medicine and Surgery have not adequate opportunity for instructing the students from a clinical point of view, and steps are to be taken to make the connexion between the hospital and the medical teaching of the University more regular, and so more practically useful.

## THE CHINESE IN SINGAPORE.

WHATEVER may be the fate of the Chinese imperial system or of the present dynasty, the relation of that people to other nations will be an urgent problem in the not very distant future. Great numbers of Chinamen leave their country every year, some as labourers deported under so-called "contracts," but a more important section as voluntary emigrants, bent on seeking fortune wherever it may be found. They are, in the main, not settlers but adventurers in quest of a competence, with which they hope to return in due course to their native land. They make their way in great numbers to the United States of America, to our Australian colonies, and to the Straits Settlements, of which Singapore is the capital city. Patient and industrious, born traders, adepts at every handicraft, and incredibly penurious in living, they soon undersell and displace many native workers in the countries which they invade. Hence the hostility which they have provoked in Australia and the United States of America, countries not entirely tropical and occupied solely by races in which the British stock very greatly preponderates. There the Chinese immigrant earns money, and ultimately takes it to China without contributing in any useful degree to the national progress of the country which has afforded him a temporary home. Commercial competition is, no doubt, the principal cause of the aversion to him existing in America and Australia, but he is ostensibly objected to mainly on the ground of his heathenism, his insanitary habits, his habitual practice of abominable vices, and his devotion to opium and gambling. Nothwithstanding these faults, the Chinese are among the most civilised of the Asiatic nations, and much is to be said in favour of those who have made their way to the Malay Peninsula. THE LANCET of July 28th last contained an article by Mr. Egerton Eastwick on the increase of venereal disorders in the Straits Settlements consequent on the repeal of the Contagious Diseases Acts, and the same gentleman, writing in the current

number of the *Humanitarian*, enlarges on the advantages accruing to that colony by means of the Chinese immigration. The Malay natives being hopelessly indolent and the climate being quite unsuited for European labourers, no industrial progress would have been possible without the Chinese, who have ultimately become next to ourselves the most important element of the population, and in 1891 numbered 184,000 males and 43,000 females. These figures include 34 700 born in the colony, of whom 16 300 were males and 18,400 were females, so that under natural conditions females apparently predominate over males; but among the immigrants the proportion of females is small. Among the Chinese born in the Straits Settlements the traditional antipathy of their nation to European institutions is much modified. They no longer have any desire to visit China, and they permit their daughters to learn the English language in the colonial girls' schools, which are open to all nationalities. The young men and boys have acquired a taste for English outdoor sports, such as bicycling, cricket, and football, and have become so proficient in the latter game that European clubs do not despise them as antagonists. Chinese have also seats on the Legislative Council and Municipal Boards, and are admitted to the Colonial Bar. In these various ways the barriers so long maintained between the Europeans and the Chinese are being gradually reduced and an identity of interests is being recognised, which promises well for the consolidation of our power in these distant and partially civilised lands.

## DIPHTHERIA IN LONDON.

A SMALL falling off in fatal cases of diphtheria in London was witnessed last week as compared with the week next preceding—that is, 53 as against 57; but even so, the registered deaths of last week were 13 in excess of the corrected average, whilst the deaths of the three previous weeks had been 43, 54, and 57. But the decline in actual fatality was not accompanied by a fall in the per case mortality, which last week was some 36 per cent. of notified attacks. The cases admitted to hospital in the week numbered 111, the admissions of the preceding three weeks having been 100, 73, and 104, the data in this connexion also showing a rise. The number of patients remaining in the Metropolitan Asylums Board hospitals, though smaller than that of a month back, was nevertheless in excess of the intervening Saturdays—namely, 521, as compared with 526, 517, and 514. In Greater London the deaths from diphtheria were last week 13, of which 7 occurred in the West Ham district and 2 in the Kingston district. Of the London deaths 3 were in infants under one year of age, 34 others in the first quinquennia of life, and the remaining 16 in young persons under twenty years old. Of the total, 5 belonged to Limehouse, 4 each to Islington and Camberwell, and 3 each to Kensington, St. George-in-the-East, Limehouse, Mile-end Old Town, Battersea, Wandsworth, and Greenwich sanitary districts.

## THE GENERAL MEDICAL COUNCIL AND THE BRITISH PHARMACOPŒIA.

THE interpretation of an Act of Parliament is proverbially a matter of difficulty, and frequently leads to numerous appeals and bewildering judgments. We venture to think, however, that in the letter which appears in another column Mr. Brudenell Carter is mistaken in his reading of the clause in the Medical Act of 1858 relating to the Pharmacopœia, which we recently quoted, and that the true meaning is that the book shall contain "a list of medicines and compounds ..... and such other matter and things relating thereto as the General Council shall think fit." With all deference we would point in support of our reading to the repetition of the word "containing," which occurs at the beginning of the clause and again towards the close. This, however, is an unimportant point; we did not contend that radical changes in the Pharmacopœia should be made, but that it was in the discretion of the Council to make them. In the leading article on the subject of the Pharmacopœia it was distinctly stated that the apparent desire of those who voted for the recommittal of the report was "to prevent the introduction or procure the omission of inert and useless drugs," and this, we believe, can only be effected by consideration of their actions. It is not for a moment suggested that any mention of the action or mode of action should be made in the volume, and far from wishing to increase the size of the book we earnestly desire to see it much smaller. The "list of medicines and compounds" can never pretend to be a complete list of all drugs in use, and since some selection must be made it is surely not unreasonable to hope that a guiding feature of the selection should be the possession of carefully ascertained active properties.

## FATHER DENZA.

ONE of the greatest of climatologists was on Friday, the 14th inst., struck down by apoplexy in the Vatican, in the person of the Padre Denza, founder of the Italian Meteorological Society, and, by special appointment of Leo XIII., director of the "Specola Vaticana." A Neapolitan by birth, Francesco Denza was a theologian by profession, but a mathematician and astronomer by choice. Enrolled in the Order of the Barnabites, he early revealed his scientific gifts, turning his attention to the study of the air currents and embodying some of his most interesting observations in a celebrated monograph entitled "La Climatologia della Valle d'Aosta." His account of the origin and character of the "scirocco" wind—that scourge of the Mediteranean littoral—is also well known; and of late years he had bestowed much thought on the genesis and propagation of earthquakes, particularly in Southern Italy. In fact, a treatise on the subject, all but completed, lies among his posthumous papers, and will, it is understood, shortly see the light under the editorial care of one of his colleagues in Rome.

## CHOLERA IN HULL IN 1893.

DR. MASON, in his annual report on the borough of Kingston-on-Hull, gives an interesting account of the prevalence of cholera in the town during the summer and autumn of 1893. Between Sept. 6th and Oct. 20th there were notified 17 cases of Asiatic cholera, with 12 deaths (a per case mortality of 70 6), in addition to 137 attacks of choleraic diarrhœa, of which 4 proved fatal, and also 396 cases of "diarrhœa" with 112 deaths, or 28·3 per cent. of attacks. Thus, of these three forms of diarrhœal sickness there were in the six weeks referred to 550 notifications and 128 deaths from the disease. As early as May the sanitary committee had the question of special measures of precaution before them, and at the close of July asked medical practitioners to notify cases of diarrhœa where sanitary action seemed called for, the high death-rate from this disease having attracted attention. The earliest suspicious attack was in an adult labourer on Aug. 16th; he recovered. By this date there were in readiness special hospital accommodation and nursing and ambulance arrangements in case cholera demanded them. These were in addition to the special port defences provided in 1892. The first case of true cholera was in the person of a boy, who fell ill on Aug. 24th and died the same day, the day after bathing in water proved later to have been fouled by the discharges of the next case of true cholera in the early stages of the attack. This second case, an adult female, was first ill on Aug. 12th, acutely so on the 31st, and died the next day. Her daughter sickened on Sept. 3rd, and died the next day. The bacteriological services of Dr. Klein were requisitioned, and, later, local laboratory

researches were instituted. On the last day of August Dr. Theodore Thomson, of the Local Government Board, visited Hull, and a few days later an assistant medical officer was appointed in addition to the deputy health officer. The town was divided into wards, each under sanitary officials and a staff of petty officers, and the sittings of the special sanitary committee were held daily, not even excepting Sundays; whilst special daily reports were made to them and the preventive measures criticised. In short, the activity of the sanitary department left little to be desired, and included disinfection and cremation of bowel discharges, speedy burial of the dead, structural drainage alterations of some cost, and the erection of a temporary pumping-station at the eastern outfall. Contrasting this prevalence with that of 1849, and again with that of 1860, Dr. Mason sees cause for congratulation in the advance made in matters sanitary and the result of that advance. The origin of the cholera outbreak of 1893 could not be definitely traced, but may be looked upon in the light of a possible recrudescence of imported disease of 1892. The cases were scattered, and no article of food seems to be in question. No expense has been spared in perfecting the sanitary defences, the one item of notification alone in the six weeks of special notification of diarrhœa amounting to upwards of £60. It should, perhaps, not be left unstated that "fever" was very fatally prevalent last year in Hull, the deaths being especially numerous in the third, and still more so in the fourth, quarter, and the annual death-rate being 0·46 per 1000 of population (the highest for eighteen years), against an average of 0·24 in the thirty-three great towns of the Registrar-General.

## PATIENTS' PAYMENTS IN ASYLUMS.

THE Asylums Committee of the London County Council has, in the terms of a recently issued circular, "provided accommodation for fifty male paying patients at 'The Hall' on the Claybury Asylum Estate." A statement of charges makes it sufficiently clear that the class of lunatics for whom such accommodation is provided is by no means that which finds a home in the ordinary private asylum, but one of a much less well-to-do order. Still we cannot feel surprised that some medical men object to this frank adoption by a municipal body of a system resembling that of the pay hospital. It would, moreover, be interesting to know the ratepayers' view of the movement. We are not forgetful of the Council's position in this matter. Lunatics as a class are persons for whom treatment at home is usually not advisable. Their presence in parish infirmaries or general hospitals is not desired. Public asylums, again, can accommodate but a limited number as free inmates, while the managers of private establishments of a like kind naturally expect a higher rate of payment than amounts to the mere cost of maintenance. Thus it happens that some difficulty arises in connexion with the detention under medical charge of a class of insane persons above the status of the pauper, yet provided with very slender means of subsistence. Naturally the Asylums Committee, if it be within its province to find accommodation for these unfortunate people, is not averse to save what it can of its outlay upon them. The arrangement we have above referred to is that which in the meantime suggests to the Asylums Committee a feasible solution. We should regard the matter in the light of sound finance and charity.

## FACIAL PARALYSIS.

THE conclusions drawn from the observation of eighty cases of facial paralysis by Dr. Rudolph Hatschek are detailed in the *Jahrbuch für Psychiatrie und Neurologie*. A short summary of the paper appears in the *Neurologisches Centralblatt*. Among the eighty cases were ten in which more than one attack occurred. Sometimes one side, sometimes both sides were affected, and more than once there were third attacks. There seemed to be no tendency for one sex to suffer more than the other, and there was no preference for one side of the face over the other. As a rule, the later attack was more severe, but not invariably so. Two of the cases occurred in patients the subjects of diabetes; one occurred in a patient at the commencement of the secondary manifestations of syphilis. One case of double facial paralysis occurred in a boy eight years of age after mumps; in another patient, a lad seventeen years of age, an attack of right-sided facial paralysis succeeded to sore-throat with pyrexia. It is also mentioned as an interesting fact that during an epidemic illness (apparently influenza) at Brest facial paralysis was one of the recognised symptoms.

## PROPRIETARY RIGHTS IN ANTITOXIC SERUM.

OUR legal contemporary, the *Law Journal*, draws attention to the fact that patentees are very busy just now securing proprietary rights in the manufacture of antitoxin, and proceeds to deduce some more or less interesting inferences as to the complications to which the existence of such patent rights might possibly give rise. Probably the suggestion that "the person who has been cured by infringing material is liable for the consequences of infringement" is not intended to be taken too seriously. Certainly it would seem as if the purely passive function of being cured ought to be very easily and clearly distinguishable from anything that could be indicated by the use of words such as the "sole right to make, use, exercise and vend." And even if this were not so it is difficult to see how an account could be taken of the infringer's profits in such a case, or indeed how a case could be made for any of the relief ordinarily sought in a patent action. No doubt the use of such material by the practitioner who effects the cure would give rise to different considerations, but these are probably of the same order as those which arise in connexion with the use of any other patented medicament. What, however, must most forcibly strike the members of the medical profession in this matter is the impropriety of it being made a question of patents at all. It is absurd to contend that the preparation of "antitoxic serum" is on a par with that of drugs and chemicals.

## OVERWORK IN LAUNDRIES.

FOR many years we have advocated the extension of the provisions of the Factory Acts to laundries. The inquest recently held at the Battersea Coroner's Court concerning the death of Tom Bawden, aged forty-three years, engineer, lately in the employ of a laundry company, confirms in every way our contentions on this subject. One of the great advantages of limiting the hours of labour for women is that in many cases it indirectly likewise limits the hours of work for men. In this instance it was stated that the defunct engineer had to work from seventy-five to eighty hours a week, and did not obtain rest on Sundays. The fact that he had been eleven years stoker in the Royal Navy suggests that he was a steady and hard-working man. He was obliged to use a defective ladder to put a bolt on the engine, with the result that the ladder slipped and threw him on to the machinery. The unfortunate man was dashed to the ceiling and seriously injured. When he had partially recovered he persisted in returning to work against medical advice, with the result that he became extremely weak and subsequently died. According to the medical evidence he died from injuries to the brain and from phthisis. Dr. J. B. Neal, of the infirmary where the man had been treated, stated in evidence that though he could not go so far as to say that the accident had accelerated death it certainly would not improve matters,

and extra hard work and over-long hours would tend to produce the very weak and feeble condition of the patient. Mr. Redgrave, chief inspector of factories, explained that the Home Office had no power to deal with a laundry in which only soiled linen was cleansed, nor could they in any way interfere with adult men, though he thought that the deceased man ought to have had assistance and that the machinery was not sufficiently protected. In the washing-room, where the women work, more fencing was necessary. The jury, with the full approval of the coroner, expressed the opinion in their verdict that "Death was accelerated by the unnatural hours of work. Undoubtedly the man was overworked, and we suggest practical assistance in the future, and trust that the improvements promised by the company will be carried out." The state of things revealed by this inquest undoubtedly would not have existed had the Factory Acts applied to laundries. A Bill thus extending its action was prepared during the course of last session, and it is to be hoped that it will be taken into consideration as soon as Parliament reassembles. Such legislation will be of twofold advantage: it will not only protect those who work in laundries, but it will also be of assistance in controlling the sanitary conditions under which the work is done. Thus the public will incur less risk of contracting disease from insanitary laundries.

## THE WEBER MEDAL AND PRIZE.

IT is with unfeigned satisfaction that we greet the announcement of the munificent gift which Dr. Hermann Weber has made to the Royal College of Physicians, in giving in trust a sufficient sum of money to found a biennial prize and medal for an essay on the subject of Tuberculous Consumption. We presume that the College has not finally adopted this lax and unscientific title for the award, and that it will be made clear whether it is intended to embrace the whole subject of tuberculosis or to be limited to pulmonary tuberculosis only. The actual money value of the prize is considerable, but we believe that this is not to be compared to the value of the training and work which will be stimulated by the competition. The subject is well chosen, as it must necessarily continue to afford material for investigation for centuries. It can scarcely be hoped that even with the intelligent coöperation of the community the disease can ever be stamped out. Dr. Hermann Weber deserves not only the plaudits of the College, but the thanks of the entire medical profession and of the general public, for thus providing an additional stimulus to the prolonged study of a subject of paramount importance. If, as he half hinted at the meeting of the College, the idea of founding this prize has been hastened and matured by thoughts of the new death duties, we can only hope that he will long be spared to be a living witness of the satisfaction to be derived from contemplation of the results of labours which he has so handsomely endowed.

## A DENTAL SURGEON'S FEES.

LAST week a dental surgeon successfully sued a lady patient for twenty-three guineas, the amount of his fees for the insertion of artificial dentures, including several visits required in the preparation of the mouth. It appears that the patient wrote expressing her satisfaction with the work, but subsequently returned the lower case, demanding back her old one, which had cost twelve guineas, but which had been broken up by the dentist and for which £1 had been allowed, together with a letter couched in such terms that Mr. Penfold, the plaintiff, although expressing his willingness to make any requisite alterations, declined to do so unless an apology were offered. The defence took the usual form as to the value of the material used in the construction of the teeth. The plaintiff's case was to the effect that this had nothing whatever to do with the fee charged, any more than it would with a surgeon, say, in a case were splints were required. It is entirely a matter of skill and experience, and any reputable dental surgeon, whether the fee be a large or a small one, would not take this into consideration, either with regard to stoppings or mechanical work and so on. Now, apart from this particular case, there is something to be said for each of these views. Were the latter carried out by all dentists—that is, were no regard to expense taken—one of two things must happen: either the large body of practitioners would become bankrupt or the poorer classes would be practically debarred from dental services, for hospitals could not possibly supply the want, they having to consider ways and means; but undoubtedly those dental surgeons who are fortunate enough to command good fees should not, and we believe do not, base them according to whether gold or vulcanite is used for an artificial set, or gold or a plastic material for a stopping. As the judge justly remarked: "If a woman will go to a West-end dentist where big prices are charged she must pay for it. If she had gone to other dentists she might have got the set for 20s."; but he did not suggest that the two were of equal value.

## MUSCULAR DYSTROPHY.

A SHORT but important abstract occurs in the last number of the *Neurologisches Centralblatt* of a paper published some time ago by Blocq and Marinesco. The paper dealt with a case of muscular dystrophy—of the type which is known as the Landouzy-Dejérine. The disease was hereditary. The patient, a female, was quite well till the age of fourteen years, when she began to experience weakness, especially in bending the elbow, and, later, weakness in the lower limbs. At the age of sixteen years she suffered from atrophy and weakness of the muscles of the face, and also of the deltoids, pectorals, rhomboids, latissimus dorsi, biceps, flexors and extensors of the hands, and of certain muscles in the lower limbs. Electrical examination revealed impairment of the reaction to each current, but no reaction of degeneration. In the next few years there was a gradual, but slow, advance in the atrophy of the affected muscles, and the patient died at the age of twenty-one from tuberculous phthisis. At the necropsy the atrophied muscles were seen to be of a light yellow colour, resembling fat, and examination revealed in the fat a few muscular fibres, but chiefly a mass of fibrous tissue. The muscular fibres (of which, as just mentioned, there were very few) were partly much diminished in size and partly hypertrophied, the transverse striation being well preserved, especially in the small fibres. The peripheral nerves, and especially the muscle nerves, remained intact even in the finest branches, and no changes were discovered in either the spinal cord or the bulb.

IT is proposed that a dinner should be given to Dr. Jameson in honour of his distinguished career in South Africa by his former teachers, friends, and contemporaries at University College Hospital. Dr. Jameson has accepted the invitation for Thursday, Jan. 24th, at the Hôtel Métropole, and all those desirous of being present should at once give notice to either of the two honorary secretaries, Dr. Radcliffe Crocker, 121, Harley-street, or Mr. Quarry Silcock, 52, Harley-street, W.

A SPECIAL adjourned meeting of the Clinical Society is to be held to-night (Friday) at 20, Hanover-square, at 8.30 P.M., to discuss the paper read last week by Dr. E. W. Washbourn, Dr. E. W. Goodall, and Mr. A. H. Card on a Series of Eighty Cases treated with Diphtheria Antitoxin. The paper is reported in another column of the present issue.

# Pharmacology and Therapeutics.

### PHARMACOLOGY AND THERAPEUTICS AT CAMBRIDGE.

DR. BRADBURY, Downing Professor of Medicine in the University of Cambridge, selected the subject of Pharmacology and Therapeutics for his inaugural lecture. After stating that, with the help of an assistant, it was hoped that an active school of pharmacology would soon grow up in Cambridge similar to the Schools of Physiology and Pathology, he gave a very clear definition of the objects in view—viz., "to investigate the physiological action of drugs, with the hope of turning them to account in the treatment of disease, as it is only by such investigations that we can expect to establish a basis for rational therapeutics." He justified his position by an interesting account of the growth of therapeutics, starting with the empiricism of herdsmen and proceeding, step by step, from Egyptian medicine, the healing art of the East, of the Greeks and Romans, to the time of Harvey, and then by more rapid stages to the present day. He showed that medicine, like other arts and sciences, travelled *pari passu* with civilisation. His chief contention was that mere experience can never satisfy the requirements of science or supply an ideal system of treatment. Turning from history to deal with pharmacology in greater detail, he gave a very clear summary of what is known of the relationship between chemical structure and physiological action, and, after numerous interesting examples of what had already been done, he once more endeavoured to elucidate the true position of pharmacology. "Although some would advocate the study of pharmacology as a purely physiological science, I prefer to regard it in its application to therapeutics. The province of the pharmacologist is to be a forerunner of the physician, to point out the therapeutic indications of new remedies, and an extended or more rational use of old ones." These views, coming from a physician of Dr. Bradbury's position and experience, should have especial value at the present time.

### SCOPOLAMINE HYDROBROMATE IN OPHTHALMIC PRACTICE.

Scopolamine is an alkaloid which was discovered by A. Schmidt of Marburg in the root of scopolia atropoides, and has been employed by Dr. Raehlmann[1] of Dorpat for more than two years in his ophthalmic clinic, with excellent results. At first he used the hydrochlorate, but subsequently found that the hydrobromate was more easy to obtain in a pure state, and so recently he has exclusively employed the latter salt. It is a much stronger mydriatic than atropine, acting more rapidly on the pupil and on the accommodation, but not affecting the intra-ocular tension. In iritis it acts very energetically, often removing synechiæ which atropine had failed to influence. It exerts, too, a very beneficial effect on the course of the inflammatory processes, which it shortens considerably. Consequently it quickly and effectively relieves the pain of iritis and other inflammations of the anterior portion of the eyeball. Unlike atropine and hyoscine—to which, by the way, it seems to be the more closely allied—it produces scarcely any unpleasant by-effects, and those which it does occasionally cause, such as dryness of the throat, are not of serious consequence. As it is five times as active as atropine, a solution of from 1 to 2 per 1000 is quite strong enough for ordinary purposes. When used to dilate the pupil for ophthalmoscopic purposes it has the advantage of not paralysing the accommodation for long. As the effects are transient, it is desirable when using the drug for its antiphlogistic properties to repeat the instillations three or four times a day. Dr. Raehlmann considers scopolamine to be the most valuable and the most active of all ophthalmic remedies.

### IRON HYPODERMICALLY ADMINISTERED IN ECZEMA.

In eczema due to an anæmic condition, where iron administered in the usual way presents the disadvantage of producing or increasing constipation, the plan of giving it in hypodermic injections is recommended by Professor Pellizzari and Dr. Venturini of Florence, who have found it most successful in acute as well as in subacute and chronic forms of eczema. The preparation they use is the ammonio-citrate, and of this they inject into the gluteal muscles the third of a grain dissolved in fifteen minims of sterilised water. When the injections are carried out with antiseptic precautions no local irritation is produced. As a result of this treatment the appetite improves, the body weight increases, also the dynamometric power, and a larger amount of urea is excreted. Then the eczema begins to show signs of improvement and generally entirely disappears after from twenty to thirty injections. The results appear to have been especially favourable in the case of female patients.

[1] Wiener Medicinische Wochenschrift, No. 20, 1894.

## THE INDIAN MEDICAL CONGRESS.

ALL preparations for the Indian Medical Congress, to be held from Dec. 24th to 29th, 1894, at Calcutta, are in a forward state. The Congress will be opened by his Excellency the Viceroy, Lord Elgin.

The General Purposes Committee, with Surgeon-Captain H. W. Pilgrim, M.B., and Dr. Prandhan Bose as secretaries, have undertaken to arrange for the accommodation of visitors. Owing to Calcutta being always full to overflowing during the Christmas week, this will prove no easy task. The Hon. Surendra Nath Banerjee has placed the Ripon College at the disposal of the Congress for the accommodation of native medical men. Babu Behari Lall Seal has also given the use of Seal's College for the same purpose, as well as a portion of a house in Vansittart-row for the accommodation of European members. The military authorities have given some accommodation in Fort William, and special arrangements have been made with the Great Eastern Hotel and some of the boarding-houses. Private hospitality will also provide accommodation for many of the visitors. The Reverend Fathers of St. Xavier's College have generously put their buildings at the disposal of the Indian Medical Congress, and the meetings will be held in this place. The college is a magnificent building, capable of providing accommodation for a score of sectional meetings simultaneously. Its situation is very accessible, being centrally placed in Park-street—one of the best-known streets in the European quarter of the city.

The Government of India have graciously granted the following concessions to members of the Indian Medical Congress: (*a*) twelve days' special leave to such medical officers in civil or military employment as can be spared from their duties, preference being given to those intending to read papers; (*b*) the loan of one section of a field hospital as an exhibit; and (*c*) return tickets at single fares on all State railways to medical men and their wives attending the Indian Medical Congress.

A similar concession has been made by twelve private railway companies (Assam Railway and Trading Company, Bengal-Nagpur Railway, Bhavnagar-Gondal Railway, Bombay, Baroda, and Central Indian Railway, Darjeeling-Himalayan Railway, East Indian Railway, Jodhpur-Bikanir Railway, Madras Railway, Nizam's Guaranteed Railway, Rohilkhand and Kumaon Railway, South Mahratta Railway, Bengal and North-Western including Tirhoot Railway) and by two steamer companies (British India Steam Navigation Company and Rivers Steam Navigation Company.

#### OFFICE-BEARERS OF THE CONGRESS.

Patron: H.E. the Earl of Elgin, G.C.S.I., G.C.I.E., Viceroy and Governor-General of India.

Vice-Patron: Sir Charles A. Elliott, K.C.S.I., Lieutenant-Governor of Bengal.

Honorary Presidents: Surgeon-Major General W. R. Rice, M.D., C.S.I., I.M.S.; Surgeon-Major-General A. F. Bradshaw, C.B., V.H.S., A.M.S.

President: Surgeon-Colonel R. Harvey, M.D., F.R.C.P., D.S.O., V.H.S., I.M.S.

Vice-Presidents: Joggobundhu Bose, M.D.; Surjee Coomar Sarbadhicari, G.C.M.B.

Presidents of Sections—Medicine and Pathology: Surgeon-Lieutenant-Colonel A. Crombie, M.D. Surgery, including

Ophthalmology: Surgeon-Lieutenant-Colonel E. Lawrie, M.B., M.R.C.S. Military Medicine and Surgery: Surgeon-Colonel Gore, A.M.S. Obstetrics and Diseases of Women and Children: Surgeon-Major H. P. Dimmock, L.R.C.P., M.R.C.S. Public Health: Surgeon-Major W. G. King, M.B., C.M., D.P.H. Medico-Legal Medicine and Insanity: Hon. W. R. Kynsey, C.M.G., F.R.C.P.I. Pharmacology and Indigenous Drugs: G. Watt, M.D., F.L.S., C.I.E.; Kanai Lal Dey; Rai Bahadur, G.C.M.B., C.I.E.

Presidents have been chosen to represent Bengal, Bombay, Madras, Hyderabad, and Ceylon, and for each Section four Vice-presidents have been elected.

The committees are as follows: (1) Transactions Committee, 17 members; (2) General Central Committee, 40 members; (3) Central Executive Committee, 14 members; (4) General Purposes Committee, 20 members; (5) Reception Committee, 32 members. Local secretaries have been chosen for Assam, Northern Bengal, Bombay, Burmah, Central India, Central Provinces, Ceylon, Eastern Bengal, Hyderabad, Deccan, Kashmir, Madras, North-Western Provinces, Oudh, Punjab, and Rajputana.

The local secretary for London is Brigade-Surgeon-Lieutenant-Colonel K. McLeod, M.A., M.D., F.R.C.S. Edin., LL.D., and his address is 39, Clanricarde-gardens, Bayswater-road, W.

## SERUM THERAPEUTICS AND DIPHTHERIA.

*The Debate at the Berlin Medical Society.*

No detailed reports have as yet been published of the discussion upon the serum treatment of diphtheria raised by Dr. Hansemann;[1] but a brief outline of the course of the discussion has been given in the *Berliner Klinische Wochenschrift*. From this we learn that on the 5th inst. the subject was resumed by Professor von Bergmann, who maintained the specificity of the Löffler bacillus and the duty of practitioners to undertake the trial of Behring's discovery on the theoretical grounds which had been advanced; but he as yet withheld the results of his own experience. Professor Virchow, who followed, reported the favourable results so far obtained at the Emperor and Empress Frederick Children's Hospital, and admitted that facts must outweigh the theoretical conceptions which he held with regard to the bacillus and its relation to diphtheria. On the 12th Drs. M. Wolff, Benda, Körte, Gottstein, and Baginsky spoke. Dr. Wolff referred to the facts in favour of regarding Löffler's bacillus as the cause of human diphtheria. Dr. Benda contrasted the recorded accounts of Bretonneau's diphtheria with modern views, and averred that from his experience in the post-mortem room of the Urban Hospital no direct action of the diphtheria serum upon the organs of the body was to be detected. Dr. Körte dwelt particularly on statistics which he had previously adduced, increased by the addition of thirty-six recently completed cases, to meet the objection that the cases now admitted into hospital were milder than formerly. Dr. Gottstein also referred to statistics, and averred that a comparison of the mortality from diphtheria in Berlin and in its hospitals since 1891, and especially the mortality of two months, September and November, did not show that serum therapeutics had influenced the diphtheria death-rate. But the small figures and the special grouping of them laid his conclusions open to fallacies. Dr. Baginsky reviewed the experience of diphtheria in the Emperor and Empress Frederick Children's Hospital from the beginning of January to the end of November, 1894, and showed the influence exercised by the serum treatment. Not merely the statistics but the course of individual cases compared with those of former days tell undoubtedly in favour of the new remedy, and, moreover, only cases that are certainly diphtheria are being treated by it. He protested against the statement that the cases were of a milder type than formerly.

*Dr. Kossel on the Antitoxin Treatment.*

A useful and instructive *brochure* upon the *rationale* and method of the antitoxin treatment has just appeared from the pen of Dr. Kossel, who is assistant in Professor Koch's Institute for Infectious Disease.[2] It opens with a brief account of Löffler's discovery of the bacillus, and the subsequent researches of Brieger, Fraenkel, Proskauer, and Wassermann on the nature of the toxine. The basis of Behring's serum treatment consists in the fact that the serum of animals rendered immune against a certain kind of pathogenic organism is capable of transmitting that immunity to other animals inoculated with the serum. Its first application was in regard to tetanus, and the discovery is declared by Kossel to mark the opening of a new era in the doctrine of immunity. For it is a distinct advance upon the Pasteurian method of conferring immunity by means of attenuated virus. Ehrlich terms the serum immunity "passive," as distinguished from the "active" immunity by attenuated virus. For this passive immunity is far more transient, the serum not inducing any change in the tissues of the body analogous to that excited by the virus itself. Passive immunity lasts only so long as the serum circulates. It was, further, found by Behring and Kitasato that the tetanus antitoxin, besides conferring immunity, had the power of curing an animal already under the influence of the poison. The extension of this to diphtheria was made by Behring and Wernicke, who found that the "curative" dose was much larger than that required to produce immunity, and hence the attempts to produce concentrated antitoxin. The method of the preparation of the serum is then described, and the principle upon which the strength of a given preparation is determined is explained on the plan introduced by Ehrlich. This consists in first obtaining a "normal serum"—that is, a serum which can neutralise a tenfold fatal dose of the virus, this being expressed in the formula that one c.c. of the "normal serum" contains one "immunising unit." Ehrlich and Kossel found that to cure diphtheria in children at least 600 "immunising units" were requisite—that is, either ten c.c. of a serum sixty-fold the "normal," or five c.c. of a serum 120 fold the "normal." There are two explanations of the action of the remedy. Behring holds that the toxine is destroyed by a suitable quantity of the antitoxin, and Buchner and Roux that antitoxin renders the tissue cells insusceptible to the toxine. In their experiments Roux and Martin found that if diphtheria bacilli were inoculated on the tracheal mucosa of the rabbit the animal died within three days after symptoms comparable to those of laryngeal croup in a diphtheric child. But if such an animal was injected with antitoxin within twenty-four hours of its inoculation it was saved; and that proportionately the course of the infection was modified the nearer the antitoxin was injected to the period of primary infection. By inoculating streptococci together with the bacilli there ensued rapid formation of false membrane and bronchopneumonia with fatal result unless antitoxin was injected immediately after the inoculation. It was found, too, that a larger dose of the antitoxin was required to cure the diphtheria in these cases of "mixed infection" than in pure diphtheria.

In applying these results to the treatment of human diphtheria it is essential to determine what is diphtheria, and naturally that is limited to the disease caused by the bacillus. There are throat affections which macroscopically and anatomically are similar to those caused by the bacillary infection. But there must be a reversion to the etiological, rather than the anatomical, distinction of diphtheria. It is a disease excited by a specific organism, and the effects it produces may be simulated by those due to other agents. Again, there is much variation in the degree and amount of the anatomical changes induced by the diphtheritic bacillus itself, as every infected family shows; but the mild cases may succumb to cardiac paralysis or to diphtherial paralysis equally with the severe ones. Dr. Kossel then dwells on the microscopical examination for the bacillus and on the dangers due to this infection and to the combined effects of it and other infections. He is particularly emphatic upon the need for commencing the treatment early in the case. Speaking of the special effects of the injected serum itself, he says that it produces no fever, but is rather antipyretic, and that practically the only effect is the production of an urticarial-like eruption, which may appear on various parts. He distinctly avers that it has no action on the heart or kidney, and he has never seen albuminuria produced by it. Its local effects are striking. It often happens that the day after injection fresh membrane becomes visible, which only proves that the infection had spread there when the treatment was commenced, for it does not continue to spread and rapidly becomes detached. The readiness with which the membrane is detached is seen in laryngeal cases after tracheotomy; whilst the subsidence of submaxillary swelling is also marked. There

[1] THE LANCET, Dec. 15th, 1894.

[2] Die Behandlung der Diphtherie mit Behring's Heilserum. Berlin: S. Krager. London: Williams and Norgate.

is improvement in the general condition, the pulse-rate and temperature falling. The treatment has no influence on the "pseudo-diphtheritic" cases. As to complications, he has not seen albuminuria occur in those cases which were treated from the beginning; whilst in those where it is commenced at a later period the albuminuria already existing may disappear. Reference is then made to statistics—viz., those of (*a*) Ehrlich, Wassermann, and Kossel, 233 children with a mortality of 23 per cent.; (*b*) Katz and Aronson, 255 cases with a mortality of 12·1 per cent.; (*c*) Roux, Martin, and Chaillou, 300 cases with a mortality of 26 per cent. He points out that of these (*a*) contains the earlier cases in which the dosage was insufficient, and that since a larger dose has been given there have been 92 cases with 81 recoveries, or 12 per cent. deaths. Of 58 cases treated within the first three days only one died (from early laryngeal obstruction and pneumonia); of 34 very severe cases recently treated in the Charité Hospital 23 recovered; of 30 laryngeal cases 19 recovered, 12 without tracheotomy.

Dr. Kossel is therefore convinced that every case of pharyngeal diphtheria can be cured by this remedy provided that its administration is commenced sufficiently early in the disease and in sufficient amount. He urges practitioners not to put off its administration because the case seems to be a mild one or because it will probably get well without it. Often in diphtheria a case apparently mild at the onset will develop grave symptoms from septic infection. After giving practical directions upon the mode of administration, he sums up with three propositions—viz.: 1. In this serum we have a material which has a markedly beneficial action without any drawbacks. 2. The treatment of cases of diphtheria when carried out on a sufficiently large scale and in sufficient degree has been productive of excellent results. 3. Observations upon its power of conferring immunity are not yet completed, but that it does produce a transitory immunity is proved, an immunity which may be prolonged by repetition of the injections. He concludes by referring to the fact that there are always some who prefer mystery in medicine to rational scientific methods, whilst there is no disease in which empiricism has so much prevailed as in diphtheria, for which at length there seems to be secured a safe and potent as well as rational cure.

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We have received from the Health Department of New York a copy of the following important resolution which was adopted at a meeting of the department held on Wednesday, Dec. 5th:—

Resolved: "That Dr. T. Mitchell Prudden, consulting physician to the health department in the division of pathology, bacteriology, and disinfection, and Dr. Hermann M. Biggs, pathologist and director of the bacteriological laboratory of this department, be requested to prepare and submit some plan for the determination of the strength and purity of the various preparations of antitoxin which are now or may be hereafter offered for sale in the city of New York, so that the public may have some guarantee that only genuine preparations of antitoxin of proper strength are furnished for sale."

Respectfully submitted,
(Signed) CYRUS EDSON,
Chairman Sanitary Committee, Health Department, New York.

The resolution followed upon an urgent representation made to the Government Office by Dr. Prudden and Dr. Hermann Biggs.

## ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AT a meeting of the Comitia on Thursday, Dec. 13th, the President, Dr. Russell Reynolds, made a brief but sympathetic reference to the recent deaths of two distinguished Fellows of the College, Dr. F. Bissett Hawkins and Dr. Octavius Sturges; and he also announced that he had appointed Dr. Church as Harveian Orator of the ensuing year, and Dr. Bradbury of Cambridge as Bradshaw Lecturer.

A communication was received from the Foreign Office, enclosing a despatch from H.M. Minister at Dresden, on Dr. Behring's treatment of diphtheria. This was read without comment.

A communication was received from Dr. Hermann Weber, asking the College to accept a sum of money in trust for founding a prize and medals to be given for the best essay on the subject of Tuberculous Consumption. The President stated that the amount first offered (£2200) had been increased to £2500, and that the intention was to found a biennial prize of £100, together with a medal or medals, and he asked Dr. Weber to explain his intentions more fully. Dr. Weber, who was received with much applause, said that in fixing the subject for investigation he hoped that the foundation of the prize would encourage younger men to make researches with a view to elucidate many obscure features connected with tuberculous consumption. He thought a prize from the Royal College of Physicians would confer a prestige on the whole after-life of the recipient; he thought that the subject might be variously considered under the headings of etiology, pathology, prevention, or treatment, and he hoped that in the future some essay might be so worded as to induce the community to help in checking the spread of this disease by making radical changes in dwellings, in food, in factories, and in schools. He concluded by eulogistic reference to the works of Edward Alexander Parkes, in honour of whose memory he hoped the College would accept his offer.

The President, in conveying the cordial thanks of the College, suggested that a small committee should be appointed to deal with matters of detail, and nominated Dr. Hermann Weber, Dr. J. Pollock, Dr. Douglas Powell, Dr. C. T. Williams, and Dr. Coupland, with power to add to the number.

A letter was read from Sir Richard Quain, President of the General Medical Council, relative to the new edition of the British Pharmacopœia, asking for the coöperation of the medical authorities, and inviting the help of the Royal College of Physicians of London. On the motion of Dr. Pollock this was agreed to, and it was left to the President of the College to nominate a committee.

Dr. P. W. Latham, who had been nominated by the Council, was elected Senior Censor in the room of Dr. Sturges, deceased, and the thanks of the College were given to Dr. Pollock for acting as Senior Censor in the interim.

A letter asking permission to copy the bust of Sydenham in possession of the College was read, and also one asking permission to take a photograph of Harvey's portrait.

A letter from Dr. J. K. Fowler was read relating to the Fellows' Club, and after considerable discussion it was agreed that the use of the College for the quarterly dinners of the Club should be granted for one year.

A report from the Laboratories Committee was received and adopted. This report referred to negotiations between the committee and the Metropolitan Asylums Board and the Goldsmiths' Company with reference to (1) the bacteriological examination of diphtheritic cases, and (2) the preparation and supply of antitoxic serum.

The Registrar having given formal notice of an alteration in the by-laws to be moved at the next meeting, the Comitia adjourned.

## METROPOLITAN HOSPITAL SUNDAY FUND

THE twenty-third annual general meeting of the constituents of this Fund was held at the Mansion House on Monday, Dec. 17th, when the Right Hon. Sir Joseph Renals, Lord Mayor, President and Treasurer of the Fund, occupied the chair.

The CHAIRMAN explained, in opening the proceedings, that at this meeting the clergy and lay members of all denominations met for the purpose of electing the Council for 1895, and also, if thought necessary, of criticising the work of the previous year.

The Right Hon. C. T. RITCHIE who moved the adoption of the report of the Council for 1894, said: "Last year the resolution for the adoption of the report was moved by Mr. Martin, who had to lament that the amount subscribed in that year had fallen short of the preceding year, and he accounted for this falling off by the fact that there was a great depression in trade, which made people poorer and therefore less able to give. We are still in the midst of depressed times, and there is no apparent reason why they should get any better soon; but, notwithstanding that fact, it is very gratifying to know that to-day we have

not to lament a falling off. This year we have to congratulate ourselves upon a considerable increase in the funds subscribed over 1893. The falling off last year was from £41,500 to £39,200; this year a sum of over £43,600 was collected, an increase of £4400 over the previous year, and I think I am right when I say that with one single exception this amount has not been exceeded during the whole existence of the Fund. What is also gratifying to know is that the number of congregations subscribing has increased from 1772 to 1799. We all cordially agree with Canon Fleming, who has sent a letter expressing his inability to attend this meeting, when he says he ventures to express a hope that every effort may be made to increase the number of congregations subscribing, and that the subscriptions from some of the chapels and churches may reach a higher level than before. The need is always growing, and in a charity of this kind the supply should grow with the need. When the revenue of the Fund is compared with the expenditure of the hospitals we desire to assist it is found that the annual collections do not cover such expenditure. Last year an expenditure of £689,863 was met by a subscribing income of only £516,375, thus leaving a deficiency of £173,488; but this was reduced by legacies amounting to £150,802, still, however, leaving a deficit of £22,886. We are very glad indeed of legacies, but the Fund would be upon a much more satisfactory footing if it did not have to use these legacies as part of its revenue. If the revenue of the hospitals permitted it I would very much like to see a considerable portion of the legacies put by and allowed to accumulate and become a revenue-bearing fund for the benefit of the hospitals. I do not know how the deficiency has been made good, but I fear that it has been accomplished by the sale of some of the permanent funds. We ought all to do our best to render unnecessary a resort to such a proceeding. The beds in hospitals number about 3212. The number of in-patients last year was 83,341, while the out-door patients reached the large total of 1,308,313. Satisfactory as these totals are, it is very unsatisfactory to find, from a report I have seen of the House of Lords Committee, that out of the large number of beds in existence in the principal hospitals of London no fewer than from 1800 to 2000 were empty, not because of the want of applicants, but because of the want of funds. We all know what an immense boon surgical appliances must be to those who require them, and it is very satisfactory to see that 2814 of such appliances were supplied in 1894, compared with 2654 in 1893; the reason of the increase has no doubt been that those patients who could afford it have themselves contributed towards the cost of these appliances. A feature of our hospitals is the great value of the training received by the nurses, and there are no less than 1200 trained nurses supported in our hospitals who are available for attending upon the public at large. The cost of management of the hospitals varies from 2·1 per cent. to 24·3 per cent. of the cost of maintenance, and one of the great merits of the Hospital Sunday Fund is the extreme care which the committee take in investigating the accounts and the expenditure of the various institutions. This not only promotes efficiency but also considerable economy. The cost of management of the Fund has this year been only 3·6 per cent., which is a lower average than that of the last twenty-two years. Our thanks are due to the clergy and ministers of all denominations, it being one of the merits of this institution that it is entirely unsectarian. We are also very grateful for the donation of £1000 which Sir Savile Crossley has annually repeated for the past four or five years; and it affords me particular gratification to say how deeply we are all indebted to Messrs. Wakley, the Proprietors of THE LANCET, for the generous manner in which they distribute every year for the information of the various congregations and others interested in the Hospital Sunday Fund their most valuable and interesting statistics, to which I think nothing could be added. It is more gratifying to me because I have been associated with St. Jude's, and it is not only the supplements issued by THE LANCET that have helped, but Mr. Wakley's personal services. I am satisfied that we are giving expression to your feelings when I say that we are very grateful for the help which he renders. To the press generally we are also greatly indebted. Its representatives who are sitting at the table in front of me have rendered us valuable assistance, and without such aid our efforts would hardly have been crowned with success."

The Rev. Dr. KENNEDY, in seconding the resolution, said he did not think any advantage would accrue to the Fund by the adoption of the suggestion with reference to legacies brought forward by Mr. Ritchie. Whatever money came in during the year for the benefit of the institutions involved should be distributed and not allowed to accumulate.

The resolution was unanimously carried.

On the motion of Lord KNUTSFORD, seconded by the Chief Rabbi, Dr. ADLER, it was decided that the laws of the constitution, which have been in force during the past year, should be continued.

On the motion of the Rev. Mr. GAGE GARDINER, seconded by Mr. MARTIN, M.P., the following resolution was adopted: "That the Council for the year 1894 be re-elected for the year 1895, with the Rev. C. H. Grundy, M.A., Vicar of St. Peter's, Brockley, S.E., to fill the vacancy caused by the death of the Rev. Canon Rowsell, M.A., Rev. Canon McCormick in place of Canon Pelham, and Sir George Robert Tyler, Bart., in the place of Sir Savile Crossley, Bart., elected to a seat at the Committee of Distribution."

Hospital Sunday having been fixed for June 16th, 1895, a vote of thanks to the chairman terminated the proceedings.

Among those present were Lord Knutsford, Mr. C. T. Ritchie, Mr. R. Biddulph Martin, M.P., the Archdeacon of London, Canon Ingram, the Rev. Dr. Kennedy, Dr. Adler, the Rev. Mr. Gardiner, and Mr. Wakley.

## SIMPLIFIED BOOK-KEEPING WITH ORDINARY BOOKS.

BY THEODORE MAXWELL, M.D. CAMB.

AT the present season, when a large number of practitioners are busily engaged in the tedious work of posting their books prior to making out their Christmas accounts, it would be well if they would consider whether it would not be worth while to start next year on some simpler method of book-keeping, so as to save themselves a repetition of the partly unnecessary task at which they are now toiling. A great many plans have been suggested and many elaborately ruled account books devised for the purpose. In my opinion these may in a large number of practices be entirely dispensed with, and a greatly simplified system carried out with the ordinary books that everyone has in use. For some fifteen years I have employed a method which, to my mind, is the acme of simplicity, and I have never had any occasion to desire to use any other. The principles on which it is based may be said to be two. 1. The visiting list is more suitable to post from than the day book. 2. Multiplication of visiting fees and of medicines separately is simpler than a large number of additions. Of course, everything must be entered in the visiting list—consultations at surgery, medicines, instruments, and all. Signs must be devised for all ordinary occurrences; extraordinary ones—such as, say, a truss supplied—can be dealt with by a mark indicating the necessity of reference to the day book. In practice I find a horizontal bar for each mixture and half a bar for a draught or a few pills answer very well. At the end of the quarter or of the attendance the crosses are counted for visits and the bars for medicines. Thus, suppose a patient has had twelve visits and seventeen bottles of medicine, an entry is made in the ledger, say, Oct. 1st—Nov. 9th, 12 V. 17 M., and when the accounts are made up any subsequent visits and medicine, &c., are added and the total priced. All cash received for items not booked is entered in the visiting list, and from it posted into the cash book weekly—the total will do. Care must be taken that the visiting list and day book agree every night, the former being merely an abridgment of the latter—which, of course, can be referred to in case of any dispute or ambiguity. Were I not afraid of trespassing on your space I should like to suggest to those commencing practice how they may best keep their private and professional expense records, and how they may treat their banking and some other accounts. At all events, I feel sure that any practitioner, senior or junior, who will commence book-keeping on the principles I have mentioned at the beginning of 1895 will by the end of the year find himself very much less worried by business matters than when he worked on the old system. He will probably, too, have managed to get in a good deal more ready cash, because he can always tell a patient what his account comes to by glancing through his visiting list, and no delay need be experienced in rendering any account asked for.

Woolwich-common.

## ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on the 13th inst., the President, Mr. J. W. Hulke, F.R.S., being in the chair.

The following regulation, recommended by the Board of Examiners in Dental Surgery, was adopted by the Council—viz.: "A candidate who is referred at the examination for the licence in dental surgery will be required to produce, before admission to re-examination, a certificate of three months' additional study at a general hospital and a special dental hospital, the precise attendances required at each hospital being left to the discretion of the respective hospital authorities."

A report from the Laboratories Committee was approved and adopted. In its report the committee announced that on Oct. 26th a communication was received from the Metropolitan Asylums Board inquiring "whether the Royal Colleges of Physicians and Surgeons could afford the managers facilities for the bacteriological investigation of doubtful cases of diphtheria which may be sent to the Board's hospitals from time to time." The committee agreed to undertake the investigation on the following conditions: (1) that the investigation be carried out by special persons to be appointed by the Laboratories Committee under the superintendence of the director, Dr. G. Sims Woodhead; (2) that the Metropolitan Asylums Board defray the expenses of the investigation, including the salaries of those occupied in the work. The expenses, including the salary of a bacteriologist and two assistants, were estimated to amount to about £750 per annum. The Metropolitan Asylums Board have agreed to these conditions as a temporary arrangement for the period of six months, and it is understood that the work will be commenced on Jan. 1st next. On Nov. 9th a further communication was received from the Asylums Board asking whether the Royal Colleges of Physicians and of Surgeons would be willing to supply, and, if so, when and on what terms, diphtheria antitoxin for use in the hospitals of the Board. The committee informed the Board that they would be willing to supply the antitoxin serum on the following conditions—viz., that the Metropolitan Asylums Board would afford accommodation on one of their farms near London for the required number of horses, such accommodation to include the services of the necessary stable attendants and the keep of the animals, and that other expenses entailed in the preparation of the serum should be defrayed by the Metropolitan Asylums Board, with the exception of the initial cost of the horses, which would be provided by the Royal Colleges. This reply of the Laboratories Committee is now under the consideration of the Asylums Board. On Nov. 21st the Laboratories Committee received a letter from the clerk to the Goldsmiths' Company offering a grant of £1000 for the purpose of prosecuting research work in connexion with the antitoxin treatment of diphtheria, combining with it, if possible, the supply of serum for use amongst the poorer classes of the community. The committee decided to accept the offer of the Goldsmiths' Company without deciding at present how the grant should be utilised. Dr. G. Sims Woodhead was reappointed as director of the laboratories till February, 1896.

The Council re-elected Mr. Edmund Owen and elected Mr. W. Anderson and Mr. Herbert W. Page as Members of the Court of Examiners. The President announced that the two vacancies on the Board of Examiners in Dental Surgery, occasioned by the expiration of the periods of office on the Court of Examiners of Mr. Langton and Mr. Pick, would be filled up at the quarterly meeting of the Council in January. The Council proceeded to the consideration of the resolution carried at the meeting of the Fellows and Members on Nov. 1st, requesting that the Members of the College should have some voice in the election of members of the Council, and the following resolution was carried unanimously: "That the Council do not think it advisable to apply for such an alteration in the Charter as will give to Members of the College a vote in the election of members of the Council, or will give a certain proportion of Members a seat on the Council."

It was moved by Mr. Macnamara and seconded by Mr. Howse, and carried: "That the Council of the Royal College of Surgeons of England urge Her Majesty's Government to take such steps as may be necessary in the coming session of Parliament for the appointment of a Statutory Commission to carry into effect or modify, as may seem advisable, the recommendations of the Commissioners appointed to consider the Draft Charter for the proposed Gresham University of London."

## CHRISTMAS BOOKS.

(Continued from page 1444.)

"THE Personal History of Josiah Wedgwood, F.R.S.," by Dr. S. Smiles (John Murray), is a biography of the great potter that will be read with interest, not only by those who have a love of the ceramic arts, but by all who appreciate a life of quiet striving after excellence crowned at the last by magnificent success. When Wedgwood began business the workmanship of potters was in a low condition as to style, the machinery was rudimentary, and the tools more so. It was Wedgwood's determination to do everything in the best possible manner that led to the use of new tools invented by himself, in the employment of which he personally instructed his workmen, attending to these small details as strictly as he did later to the great pyrometric problems which repeated failures in his furnaces made him determined to solve. This is a capital gift-book for boys, the story of one who, with the greatest struggle and effort, and with all the disadvantage of early sickness, triumphed by sheer assiduity and perseverance. Dr. Gordon Stables sends us in "To Greenland and the Pole" a story of Arctic exploration dedicated to Dr. Nansen, "the bravest of Arctic explorers," who also figures in the book as its chief hero under the pseudonym Captain Reynolds. The book is full of adventure, told with the ease of the practised story writer, while an elaborate map of the North Polar regions is not the only evidence which Dr. Stables can adduce in favour of his narrative being written on exact lines. He is himself an old Arctic explorer, and the description of the ice and the adventures thereupon are mostly taken from his personal journals. The book, which is published by Messrs. Blackie and Sons, should be one of the popular gift-books of the season. We have received from Messrs. Cassell and Co. their *Family Magazine* for 1894. It goes without saying that the literary matter is wholesome and well chosen, and that the illustrations are admirable examples of black and white reproduction. For effective illustration we have not seen anything much better than the two pictures drawn by Mr. J. F. Sullivan in explanation of his ballad, "A Brewing." If the old man in the second picture suggests a little too much the comic old man in Mr. Sullivan's well known work in *Judy* and elsewhere, it is the only fault that we are able to find. In "The Lilac Sunbonnet" (T. Fisher Unwin) we have Mr. Crockett's latest contribution to fiction, and in many ways it well explains the sudden popularity which this writer has achieved. If not so likely to make a sensation as "The Raiders," it is sure to be widely read and widely appreciated as a pretty story of true love, sentimental, but natural and free from mawkishness. Like all books issued by Mr. Unwin, the volume is a model of elegant production. The "Play Actress," by the same author, also issued by Mr. T. Fisher Unwin, is a volume of the Autonym Library. It is a forced effort, and does not do credit to its author's powers of accurate observation. We have also received the forty-fourth volume of the Pseudonym Library from the same publisher. It cannot be difficult for a good many people to make a shrewd guess at the author, so obviously has he drawn on personal acquaintance for much of his story. "Helen" is an up-to-date little book, chatting of authors, artists, and socialists—people who have of late years quite usurped the time-honoured privilege of dragoons and baronets of being heroes; and to people who take an interest in authors, artists, and socialists it should not be dull. The diction is a little jerky, but the description of the evolution of an eminent novelist is very clever. "Pudd'nhead Wilson," by Mark Twain (Chatto and Windus), is sure to secure many readers. There are people who consider, and we think on the whole we are among them, that in *Tom Sawyer* and *Huck Finn*, Mark Twain has written two of the best books for boys that have ever been written. When a man has already placed behind him such a record he has a very high standard to attain to, and we can imagine that it is with some little apprehension

of the result that Mark Twain starts on a new story book. We have no intention of telling this story; it is sufficient to say that it is sensational, amusing, characteristic—in the way in which the duffer of the community turns out its really clever man, and novel—in that it is the first English story to make use of Galtonism or the reading of the print of the papillary ridges as a method of detecting crime. There is a court scene at the end with legal details, concerning which the author volunteers the following remarkable testimony as to their accuracy: "These chapters are right ..... they were rewritten under the immediate eye of William X——, who studied law part of a while in south-west Missouri thirty-five years ago and then came over to Florence for his health, and is still helping for exercise and board in Macaroni Vermicelli Horse-feed shed, which is up the back alley as you turn round the corner. ..... He was a little rusty on his law, but he rubbed it up for this book, and these two or three legal chapters are right and straight now—he told me so himself."

*(To be continued.)*

## SANITATION AT BELGRADE.

(FROM A SPECIAL CORRESPONDENT.)

THE reception given to the members of the Eighth International Congress of Hygiene and Demography, held at Budapest in September, when they paid a short visit to the town of Belgrade,[1] was of so cordial a character that I naturally felt a strong desire to revisit the capital of Servia. The one day spent at Belgrade, though so fully occupied, did not suffice to give a clear idea of the sanitary condition of the town, so on my way homewards from Constantinople I stopped there again. Though this time I was unaccompanied by any other members of the Congress, my visit thus assuming a purely private and unofficial character, I again received the warmest welcome and the greatest hospitality. Mr. Nicholas S. Iovanovitch, formerly Consul-General of Servia in Great Britain and in America, placed his time entirely at my disposal. Mr. Miloch M. Pétroniévitch, *attaché* at the Ministry of Foreign Affairs, likewise very graciously accompanied me to various places, interpreting and explaining what I could not understand. Then, to still further facilitate my investigations, Mr. Michel M. Boghitchevitch, the mayor of Belgrade, very kindly put his horses and carriage at my disposal. Rarely have I found so earnest a desire on the part of local authorities to aid and to court inquiry and criticism. I was also invited to visit the Minister of Foreign Affairs and some of the leading politicians of the three political parties. All these gentlemen, no matter to what party they belonged, received me with equal cordiality and were unanimous in the desire they expressed to see their country take its stand with the foremost nations in the good cause of sanitary reform. They courted the fullest criticism and proved by their every action their appreciation of the services THE LANCET had rendered in defending the interests of public health not merely in England, but also in many Continental countries.

After calling on the Minister of Foreign Affairs I was introduced to Dr. Dimitriévitch, chief of the Sanitary Department. This department was instituted by the law of March 30th, 1831, and is entrusted with the organisation of sanitary services throughout the country. The sanitary council then formed had power to impose quarantines and establish sanitary cordons; but as Servia has adhered to the Dresden Convention travellers are no longer kept in quarantine. They only undergo medical examination, and when cholera is feared have to give their addresses so that they may be watched for five days. The neighbouring State of Bulgaria did not adhere to the Dresden Convention, with the disagreeable result that at the time of my leaving Constantinople all ordinary trains from Turkey were put in quarantine for five days at the Bulgarian frontier. Fortunately there was no cholera in Constantinople, so that by taking the Orient express, which does not stop at any Turkish town, I was able to pass the Bulgarian frontier after a simple medical examination. The other trains stop at Adrianople and various towns where there was cholera, and were therefore put in quarantine on arriving at the Bulgarian frontier. All those who desired to escape this ordeal had to pay 20 per cent. more than the first-class fare so as to travel by the Orient express. To the credit of the Servian administration, it must be noted that the example given by the most civilised nations has been followed and, as already mentioned, no quarantine is imposed on the Servian frontier. Yet Servia was really nearer to a severe epidemic of cholera than Bulgaria, for there was always the fear that cases might be imported from Galicia and from Russia. All that was done, however, was to prevent the importation of rags and dirty clothes from these countries. Travellers were only examined medically, and their addresses taken and communicated to the places where they intended to reside, so that the local authorities might watch them for five days. Dr. Dimitriévitch gave me the text of the sanitary laws of Servia translated into French; but I will not attempt to analyse these enactments. It is not of much use to give the text of a law unless the manner and efficacy of its application can also be described, and I did not stay long enough in Servia to be able to say how far these laws had really entered into the everyday life and habits of the Servian people. One thing, however, I may mention—namely, that the notification of infectious disease is obligatory, and, what is more, such notification must be made within one hour of the time of discovery of the malady. Thus no time is lost. The authorities then at once depute a policeman to affix a notice on the door of the house and to mount guard before the premises, so as to prevent all communication with the outside public. These rigorous measures are thought necessary, notably because of the great increase of diphtheria in Belgrade. This disease is not limited to poor districts of the town—it is prevalent in the best quarter. Taking the last decade, for which I possess the mortality returns, I find that during the three years 1882, 1883, and 1884 there were respectively 797, 786, and 793 deaths. The births are always considerably in excess of the deaths, being respectively 953, 954, and 981. During these three years the deaths from diphtheria and diphtheritic croup numbered 14, 18, and 29. Now, taking the three years 1890, 1891, and 1892, there were 957, 1124, and 1347 deaths, and 1239, 1269, and 1250 births. The deaths from diphtheria and croup were 17, 55, and 150. Coming down to 1894, there have been during the last three years 860 cases of diphtheria and croup, half of which have ended fatally. In the small and poor houses, where sanitary conditions are less favourable, typhoid fever is prevalent, and there is also a good deal of intermittent or malarious fever. In 1892, when the deaths actually exceeded the number of births, there was not only an epidemic of diphtheria and croup, but also eighty deaths from scarlet fever. In the year 1890 there were no deaths at all from this cause, and in 1891 only seven deaths. Considering that Belgrade has not a large population, that there are no big factories and unwholesome industries, and that there is little or no abject poverty and not much overcrowding exists it must be confessed that the vital statistics are far from being as satisfactory as under these circumstances it would be natural to expect. The reason of this unfavourable result is not difficult to find; for the town water-supply is not above suspicion and there is no drainage whatsoever.

At the town waterworks I was received by Mr. Vélimir Antitch, civil engineer and inspector in the service of the Ministry of Public Works. The waterworks consist of five wells situated about 200 metres from each other. They are dug in what certainly appears to be a most unsuitable spot—namely, in low-lying marshy land, stretching at the foot of limestone hills of the tertiary formation. This plain, redeemed from the Save, measures ten by three kilometres. The surface is composed of common soil, with stagnant water here and there. The wells are some twenty metres deep. After a metre or so of humus there are seven metres of alluvial soil; then there are some ten metres of clay, and afterwards gravel and sand are reached. The theory is that the surface waters, which are certainly not good, cannot traverse the thick strata of clay; but after all there is nothing to prove that this clay is free from fissures. There is a large collecting well near the pumping station, and as the level of water in the other wells is slightly higher they can be emptied into the large well by means of syphon pipes. From this large collecting well the water is pumped into a badly arranged filtering station. The filter consists of a big drum containing a layer of fine sand at the bottom; then follows gravel, and together these form a filtering medium

[1] THE LANCET, Oct. 6th, 1894.

about 5 ft. deep. On the top there is added about 5 ft. of coke. This filtering substance has not been changed for two or three years, but the big collecting well is cleaned out about once in six months. After filtration the water is pumped through iron mains to a height above Belgrade, whence it is delivered by gravitation and under strong pressure to all parts of the town. The delivery from the five wells is equal to 41 litres per second; the maximum amount of water pumped up to the town has been 2700 cubic metres in the twenty-four hours, but the average is 2300 metres per day. Then there is another supply which existed when the Turks governed Belgrade, by which water was brought to the town from hills at a distance of twelve kilometres. The defective Turkish canalisation has been replaced by iron pipes. These two supplies together give 40 litres per day per inhabitant. The actual average consumption, however, is 37 litres per day per inhabitant. The water-supply, to give a few examples from other countries, is equal to 75 litres per day per inhabitant at Berlin, it is 80 litres at Leeds, 150 litres at Brussels, 175 litres in London, 220 litres at St. Petersburg, 240 litres at Paris, and 1000 litres at Rome. In a general scheme of water-supply and of drainage for the town of Belgrade it would be necessary, seeing the rapid increase of population, to calculate for about 100,000 inhabitants. A daily supply, therefore, of something like 30,000,000 litres should be obtained, though, for the moment, less than a quarter that amount would suffice, particularly as 300 litres per head per day would be somewhat of an ideal supply, and the above figures show that towns are drained with a much smaller amount. At the same time, there is no lack of water at Belgrade for drainage, since on one side of the town there is the river Save and on the other the Danube. Thus, if it is really very difficult to obtain a sufficient quantity of potable water for drainage purposes, it may be cheaper to have two water-supplies. The first and smaller supply, to which the public would have access, would be used for drinking, washing, and domestic purposes; while the second, carefully locked in separate mains, to which the public could not possibly get access, would be employed only for the flushing of drains, of sewers, the extinction of fires, and the watering of roads. This latter supply could be taken directly from one or other of the rivers. In any case, and however this problem is solved, it must be clearly understood that nothing short of a ten-litre flush of water will keep closets and the house drain-pipes clean. Further, it will in all probability be necessary to place at the head of various sewers automatic flush tanks, which will discharge several cubic metres of water three or four times in the course of the day, so as to scour out the sewers. Even if some system of pneumatic drainage were employed in the streets, for which much less water is required, this would not affect the house drains. These latter cannot possibly be kept clean unless a flush of two gallons or ten litres is given each time the closet is used.

Under these circumstances—and I have only insisted on what might be qualified as the A B C of sanitation—there is no avoiding the water problem. Certainly there are numerous private wells, and water from these private wells might be pumped up by hand to cisterns at the top of the houses, and thus a sufficient supply obtained for flushing the closets, but this would be a very dangerous proposal to make. It would be better, on the contrary, to close all private wells, for a private well in a town is a continual source of danger because it is always liable to become contaminated. Nor is it safe to take for granted that the well water will only be used for flushing purposes. Also there will always be a tendency to neglect to pump up sufficient water to flush the sewers. Thus the town of Belgrade must resign itself to the necessity of doing what all other towns have had or will have to do—an ample supply of water must be secured; but, as I suggested before, and as a sort of temporary and economic compromise, if the actual water-supply, in spite of the marshy ground from which it is gathered, is fairly free from organic impurities its use for drinking purposes might be continued, for the first thing to press forward is the building of sewers. Actually the greater part of the rain water flows down the street gutters, and by natural gravitation finds its way to the rivers. Of course, the streets receive a considerable amount of domestic slops, while the soil of the houses drains into middens or cesspools. There was not time for me to ascertain by personal investigation whether these cesspools are watertight or to what extent they contaminate the subsoil. Considering the prevalence of epidemic diseases the probabilities are that there is a considerable contamination of the subsoil going on. On the borders of the Danube and of the Save there are low-lying, damp, unhealthy districts, which it will be difficult to drain satisfactorily unless a sufficient fall in the sewers is produced by artificial means. The greater part of the town, however, is built on a hillside, where by natural gravitation the rapid flow of the sewage can be easily secured. Special difficulties in drainage, entailing extra expense, will, therefore, be limited to a very small part of the town. The Municipal Council has already assented to the proposal that it was first necessary to build sewers. The Commission of Public Works was given full powers to obtain competent aid and advice, and a credit of £1200 was voted so as to study various projects. Nevertheless, and in spite of these decisions, some two years have now elapsed, and, practically speaking, nothing has been done. It is sincerely to be hoped that the prevalence of diphtheria will at least serve to shake off this lethargy.

*(To be continued.)*

## THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A MEETING of the committee of the Association of Fellows of the Royal College of Surgeons of England was held at 25, Grosvenor-street, W., on Monday, the 10th inst., at 5.30 P.M. Mr. George Pollock, the President, and Mr. Holmes, Vice-President, were unavoidably absent. The minutes of the last meeting were read and confirmed. The hon. secretary (Mr. Percy Dunn) reported the proceedings of the subcommittee appointed to confer with a similar subcommittee of the Council of the Society of Fellows already noticed in the columns of THE LANCET. He then read the following communication from the hon. secretary of the Society of Fellows:—

26, Welbeck-street, W., Nov. 28th, 1894.

DEAR SIR,—I beg to inform you that at a meeting of the Council of the Society of Fellows of the Royal College of Surgeons held on Wednesday last, Nov. 21st, it was decided: 1. To canvass the opinion of all the Fellows upon the method of election of president. 2. At the meeting of the Fellows of the College in January to propose and second a motion to the effect that a conjoint committee of Fellows and of the Council be formed for the purpose of discussing the details of a proposed new Charter.

I beg to remain, dear Sir, very truly yours,
FREDERICK C. WALLIS, Hon. Sec.

The two points raised in the foregoing letter were then considered *seriatim*. With regard to the first the following resolution was unanimously adopted: "The committee of the Association of Fellows having through their subcommittee suggested and arranged that the Society of Fellows should canvass the whole body of Fellows in regard to the mode of election of the President of the College, and being desirous that this question should be settled, would hereby recommend the members of the Association to reply to the card which has been issued by the Society of Fellows."

With regard to the second point a prolonged discussion took place. It was felt that the proposed resolution of the Society of Fellows as announced in the letter might be regarded by the authorities of the College as not strictly in order, and that it did not clearly express the views of the Association upon the subject. Accordingly the following resolution was drafted, proposed and seconded, and unanimously agreed to: "That the Council of the Royal College of Surgeons of England be asked to agree to a conjoint committee of the Council and the Fellows of the College for the purpose of considering what alterations should be made in the existing Charters of the College." The proposer, Mr. Gant, undertook to forward the resolution to the secretary of the College with a view to its submission to the meeting of the Fellows in January.

AT the quarterly meeting of the board of delegates of the Hospital Saturday Fund, held on Saturday last, the finance committee reported that the receipts to Nov. 24th were £16,512, while the expenditure had been £2309. The distribution committee reported that the awards were to be worked out on a basis of suppositional receipts of £17,000, as was done last year. Mr. Webster resigned his position as organising secretary, having accepted another appointment.

# Public Health and Poor Law.

## LOCAL GOVERNMENT DEPARTMENT.

### REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

*Diphtheria at Barnham Broom, by* Mr. T. W. THOMPSON.[1]—The parish of Barnham Broom lies in the Forehoe rural district in Norfolk, a district which, according to Dr. Longstaff's statistical studies, is included within an area of high diphtheria-rate in the past. This excess of diphtheria prevalence has been maintained, and as recently as 1889 the schools in the neighbouring parish of Wyndham had to be closed on account of that disease. But during the earlier part of 1894 the Forehoe district was comparatively free, and it was only in May that the disease began. Between May and September, however, 42 new cases of diphtheria in fourteen houses occurred in Barnham Broom, the parish only containing ninety-seven inhabited houses and a population of 412 persons. In addition to the recognised cases of diphtheria there were other attacks that must be regarded as forming part of the diphtheria prevalence, and with these the total attacks amounted to 65. There were also 11 deaths. The great bulk both of the diphtheria and of the allied throat disease took place at a time of the year when diphtheria is generally reduced to a minimum—namely, between the second week of July and the second week of September. Mr. Thompson has taken much trouble to trace out the origin of this severe outbreak, and he incidentally deals with arrivals from London and from other places, with the question of milk-supply, and with ailment among cows. He finds that at a farm supplying milk to a place called Pockthorpe, in which place diphtheria was first epidemic and in which its incidence was greatest, there was evidence of disease of a pneumonic character amongst the cows, and he enters into detail concerning this illness, which, although in many respects very obscure, was, in one cow at least, found to have been preceded by an inflammatory condition of the udder. It is also curious to note that at this very farm there occurred in two out of the three cats an illness very suspicious of diphtheria, from which one cat died. The schools do not, in this instance, seem to have borne any important part in the dissemination of the disease, whilst household infection was unusually potent for mischief. Nine, 8, and 7 attacks occurred in the same households; indeed, 53 attacks were distributed over eleven houses. The sanitary condition of some of the dwellings concerned is the reverse of creditable to the sanitary authority. Conditions of polluted water are referred to which ought not to have remained undealt with until disease had made its appearance, nor should the cottages have been left without means for disposing of their slops and other refuse.

### REPORTS OF MEDICAL OFFICERS OF HEALTH.

*Nottingham Urban Sanitary District.*—Dr. Philip Boobbyer, summarising his statistics of vaccination in relation to small-pox during 1893, states that of a total of 53 cases, only 1 was under five years of age, and this, an unvaccinated one, ended fatally. Forty-one of these cases were vaccinated, but only 1 died, the fatality rate among the vaccinated being therefore 2·4 per cent. Twelve of the cases were unvaccinated, and the fatality rate amongst them was 33·3 per cent. Dr. Boobbyer, in a future report, promises to give a detailed account of an epidemic of small-pox, which was confined to lace market employés and their friends, and which was propagated in the main by infected cotton. Within a few days, he tells his readers, 40 cases of small-pox were traced by following the movements of the infected cotton and of the persons who manipulated it. In considering measles Dr. Boobbyer refers to the desirability of providing hospital accommodation for the disease so as to place patients living in insanitary homes under better conditions for recovery. In regard to diphtheria, he remarks that "it is gratifying to note that, while the disease is increasing so ominously in London and many other large towns, it manifests no tendency to advance in Nottingham." Two outbreaks of typhoid fever are treated of by Dr. Boobbyer, and the evidence in each instance seems to point to direct or indirect infection by the patient's discharges rather than to any common medium, such as polluted water or milk. He insists upon the necessity of attending in cases of typhoid fever with the utmost vigilance to nursing details and isolation. In this connexion it is to be much regretted that the hospital committee of the Nottingham Corporation have decided to exclude cases of typhoid fever from the fever hospitals. In order to aid the carrying out of notification the school teachers of Nottingham have been provided with cards setting forth the duties of patients under the Notification Act and the necessity for obtaining medical advice in any suspicious cases. These cards are given to school children in instances where the teachers consider they might be of value. Dr. Boobbyer, in discussing the subject of underground bakehouses, refers to the manner in which they must, unless hermetically sealed against the soil, act as a means of ventilation for ground air. There is much in the report which is well worth perusal.

*Plymouth Urban and Port Sanitary Districts.*—Considerable progress in the matter of water-supply has been made in Plymouth during 1893, and instead of an open conduit for the conveyance of water to the borough there will be a line of iron pipe, and in place of a storage for two and a half days there will be provided a reservoir capable of supplying 130,000 persons for 130 days. Mr. F. M. Williams deprecates the practice of discharging untreated sewage into Plymouth Sound, and he advises that if mechanical or chemical treatment were considered impracticable, an attempt should be made to discharge the sewage into the English Channel outside the Sound. The infantile mortality amongst illegitimate children was, during 1893, no less than 529·4 per 1000 births, as against a rate of 161·4 per 1000 births among the legitimate. He points out that the illegitimate rate is enormously increased by improper feeding and nursing and by congenital feebleness and neglect. The question as to whether congenital feebleness is a very important factor in bringing about a high mortality of illegitimate children is one which we have not here space to discuss, but it nevertheless involves some interesting and debatable points. In thirty-one out of seventy cases of diphtheria defective sanitary conditions were discovered in the infected houses, presumably in the remainder no such defects were apparent. During the year the floating small-pox hospital ship *Maud*, to which we referred in our columns recently,[2] was fitted up and completed, and it seems already to have been of service, not only to the town of Plymouth, but also to an adjoining authority. In reference to the important subject of inspection of animals prior to slaughter, Mr. Williams states that some 50,000 animals are annually slaughtered for food in the eleven slaughter-houses of the borough, but that no skilled inspection of the animals takes place before slaughter. Mr. Williams reminds this authority of the great advantages which would accrue from the provision of a central abattoir. In reporting to the Plymouth Port sanitary authority he states that practically all the vessels entering the port are inspected by the port sanitary inspector, Mr. Kelly, and during the alarm as to cholera last year the sanitary authority hired a steam launch for the purpose of facilitating medical inspection. This launch seems to have been of the greatest service to the medical officer of health. It would certainly appear to us impossible that the proper medical supervision of the shipping in a port such as Plymouth can be carried out without some such provision as is here referred to.

[1] Eyre and Spottiswoode, East Harding-street; John Menzies and Co., Edinburgh; Hodges, Figgis, and Co., Dublin. Price 4d.

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6452 births and 3959 deaths were registered during the week ending Dec. 15th. The annual rate of mortality in these towns, which had risen in the preceding five weeks from 16·9 to 20·2 per 1000, declined again last week to 19·7. In London the rate was 18·6 per 1000, while it averaged 20·6 in the thirty-two provincial towns. The lowest rates in these towns were 11·8 in West Ham, 13·5 in Croydon, 15·3 in Norwich, 16·9 in Hull, and 17·9 in Nottingham; the highest rates were 24·6 in Liverpool, 25·1 in Bradford, 25·9 in Leeds, 26·1 in Plymouth, and 28·9 in Oldham. The 3959 deaths included

[2] THE LANCET, Nov. 10th, 1894.

423 which were referred to the principal zymotic diseases, against 432 and 467 in the preceding two weeks; of these, 154 resulted from measles, 87 from diphtheria, 57 from whooping-cough, 55 from "fever" (principally enteric), 35 from diarrhœa, 35 from scarlet fever, and 5 from small-pox. No fatal case of any of these diseases occurred last week in Croydon or in Plymouth; in the other towns they caused the lowest death-rates in Leicester, Bristol, Nottingham, and Preston, and the highest rates in Derby, Oldham, Burnley, Leeds, and Gateshead. The greatest mortality from measles occurred in Brighton, Leeds, Derby, Gateshead, and Sheffield; from whooping-cough in Norwich, Swansea, and Huddersfield; and from "fever" in Sunderland, Salford, and Derby. The mortality from scarlet fever showed no marked excess in any of the large towns. The 87 deaths from diphtheria included 53 in London, 4 in Manchester, 4 in Oldham, and 3 in Bristol. Three fatal cases of small-pox were registered in Birmingham, 1 in Birkenhead, and 1 in Halifax, but not one in London or in any other of the thirty-three towns. There were 22 cases of small-pox under treatment in the Metropolitan Asylum Hospitals on Saturday last, the 15th inst., against 33, 31, and 32 at the end of the preceding three weeks; 3 new cases were admitted during the week, against 2, 6, and 7 in the preceding three weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2034, against 2198, 2148, and 2142 on the preceding three Saturdays; 187 new cases were admitted during the week, against 191 and 228 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 261, 263, and 338 in the preceding three weeks, further rose to 358 last week, but were 125 below the corrected average. The causes of 58, or 1·5 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Nottingham, Leeds, Newcastle-on-Tyne, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in Cardiff, Birmingham, Liverpool, and Sheffield.

### HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the preceding four weeks from 20·3 to 22·1 per 1000, further rose to 22·5 during the week ending Dec. 15th, and exceeded by 2·8 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 10·8 in Leith, and 15·8 in Greenock, to 24·9 in Aberdeen, and 26·6 in Paisley. The 643 deaths in these towns included 32 which were referred to measles, 17 to diarrhœa, 14 to whooping-cough, 11 to scarlet fever, 8 to diphtheria, 6 to "fever," and 2 to small-pox. In all, 90 deaths resulted from these principal zymotic diseases, against 91 and 84 in the preceding two weeks. These 90 deaths were equal to an annual rate of 3·2 per 1000, which was 1·1 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had steadily increased from 12 to 26 in the preceding three weeks, further rose to 32 last week, of which 21 occurred in Glasgow, 5 in Aberdeen, and 3 in Dundee. The 17 deaths from diarrhœa exceeded the number in recent weeks, and included 8 in Glasgow. The fatal cases of whooping-cough, which had been 17 and 15 in the preceding two weeks, further declined to 14 last week, of which 11 occurred in Glasgow. The death from scarlet fever, which had increased from 6 to 12 in the preceding three weeks, were 11 last week, and included 7 in Glasgow and 3 in Edinburgh. The fatal cases of diphtheria, which had been 13, 14, and 7 in the preceding three weeks, were 8 last week, of which 2 each occurred in Edinburgh, Dundee, and Aberdeen. The 6 deaths referred to different forms of "fever" showed a slight further increase upon the number in recent weeks, and included 2 in Edinburgh and 2 in Paisley. The 2 fatal cases of small-pox were recorded in Edinburgh. The deaths from diseases of the respiratory organs in these towns, which had been 164 and 169 in the preceding two weeks, declined to 151 last week, and were 29 below the number in the corresponding week of last year. The causes of 53, or more than 8 per cent., of the deaths in these eight towns were not certified.

### HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·2 and 25·4 per 1000 in the preceding two weeks, further rose to 27·1 during the week ending Dec. 15th. During the past eleven weeks of the current quarter the death-rate in the city has averaged 23·4 per 1000, against 16·5 in London and 19·7 in Edinburgh. The 182 deaths registered in Dublin during the week under notice showed an increase of 12 upon the number in the previous week, and included 18 which were referred to the principal zymotic diseases, against 10 and 14 in the preceding two weeks; of these, 5 resulted from small-pox, 4 from whooping-cough, 4 from "fever," 3 from diarrhœa, 1 from measles, 1 from scarlet fever, and not one from diphtheria. These 18 deaths were equal to an annual rate of 2·7 per 1000, the zymotic death-rate during the same period being 1·9 in London and 2·9 in Edinburgh. The fatal cases of small-pox, which had been 1, 3, and 6 in the preceding three weeks, were 5 last week. The deaths referred to different forms of "fever," which had been 2 in each of the preceding two weeks, rose to 4 last week. The 4 fatal cases of whooping-cough exceeded the number recorded in any recent week. The 3 deaths from diarrhœa corresponded with the number in each of the preceding two weeks. The 182 deaths in Dublin last week included 28 of infants under one year of age and 51 of persons aged upwards of sixty years; the deaths of infants showed a decline, while those of elderly persons showed a marked further increase upon those recorded in recent weeks. Six inquest cases and 3 deaths from violence were registered; and 70, or more than a third, of the deaths occurred in public institutions. The causes of 13, or more than 7 per cent., of the deaths in the city last week were not certified.

## THE SERVICES.

### MOVEMENTS OF THE MEDICAL STAFF.

SURGEON-MAJOR TREWMAN has been posted to the Curragh, Surgeon-Major Flanagan to the North-Western district, and Surgeon-Captain Aldridge to Netley. Brigade-Surgeon-Lieutenant-Colonel Tomlinson, retired pay, has been appointed to Bristol. The following officers have embarked in the *Britannia* for service in India:—Surgeon-Lieutenant-Colonel Drury, Surgeon-Captain Morgan, and Surgeon-Lieutenant McDermott. Surgeon-Lieutenant-Colonel Stannard has arrived at the Cape, and Surgeon-Lieutenant-Colonel Carter, lately stationed at Woolwich, has embarked for Malta. Surgeon-Captains Forde and Luther have arrived from the Mauritius on completion of a tour of service. Surgeon-Captain A. R. Aldridge, M.B., has reported his arrival at Netley for duty. Leave has been granted to Surgeon-Lieutenant L. Moore, Netley, who is under orders for India, from Dec. 15th to Jan. 9th, 1895.

### INDIA AND THE INDIAN MEDICAL SERVICES.

10th Bombay Infantry: Surgeon-Lieutenant Leumann is appointed to officiate in Medical Charge until further orders. Brigade-Surgeon-Lieutenant-Colonel W. Price, M.D., I.M.S., Principal, Medical College, and Senior Medical Officer, General Hospital, Madras, is permitted to do duty at the office of the Principal Medical Officer, Madras district. The Queen's approval of the following promotions among the officers of the Indian Medical Services appears in the *London Gazette* of Dec. 18th:—*Bengal Medical Establishment:* Surgeon-Majors to be Surgeon-Lieutenant-Colonels: Richard Nugent Stoker; Gerald Bomford, M.D.; Charles Joseph McCartie, M.D. Surgeon-Captains to be Surgeon-Majors: Albert William Denis Leahy, M.D.; Richard Rose Weir. *Madras Medical Establishment:* To be Surgeon-Lieutenant-Colonel: Surgeon-Major William O'Hara. To be Surgeon-Majors: Surgeon-Captain Robert Evans Stuart Davis; Surgeon-Captain William Henry Neilson. *Bombay Medical Establishment:* To be Surgeon-Lieutenant-Colonel: Surgeon-Major Dhanjisha Navroji Parakh. To be Surgeon-Majors: Surgeon-Captain William Henry Burke; Surgeon-Captain John Crimmin, V.C.

### NAVAL MEDICAL SERVICES.

The following appointments are announced:—Surgeons: A. S. G. Bell, to the *Royal Arthur* (additional); George R. M'Mahon, to the *Aurora;* and George A. Dreaper, to the *Cockatrice*.

### VOLUNTEER CORPS.

*Artillery:* 1st Cinque Ports (Eastern Division, Royal Artillery): Surgeon-Lieutenant J. B. Berry to be Surgeon-Captain. *Rifle:* 2nd Volunteer Battalion, the Princess of

Wales's Own (Yorkshire Regiment): Surgeon-Lieutenant J. Harvey to be Surgeon-Captain. 1st Volunteer Battalion, the Lancashire Fusiliers: Surgeon-Captain G. H. Jameson resigns his commission.

### INDIAN VILLAGE SANITATION.

Village sanitation in India has for some time occupied the attention of the governing authorities of that country. Considering the relation of India to other countries, and the large European military force that we maintain there, the subject is one of much importance. Government resolutions have been passed and village sanitation Acts have been introduced and put into operation. Moreover, Miss Florence Nightingale, whose interest in the village sanitation of India is unabated, has been recently urging the importance of this matter on the attention of the Government in connexion with her proposal that the local cess should be primarily devoted to the sanitary requirements of rural villages. The *Times of India* of the 24th ult. has two articles on this subject, in one of which it sets forth the history of village sanitation in Bombay, and in the other it describes some of the practical results of applied legislation in this respect. The fact is that, speaking generally, the village population have not voluntarily adopted the Village Sanitation Act; they are not only indifferent, but in many instances altogether opposed, to sanitation; they do not see the good of it; they are miserably poor, and, naturally enough, strongly opposed to contributing anything towards its application. Still, some progress is being made, and with increased facilities of communication, good roads and bridges, schools and dispensaries, for which purposes the local cess was established, we may fairly expect that village populations will come in time to recognise their sanitary deficiencies. An appreciation of the value of a good water-supply is spreading. As the acting commissioner in Sind points out, scarcely two generations ago our own present habits of cleanliness and our modern sanitary appliances were almost unknown in civilised Europe, and it is impossible to enforce them by legislative action and uproot or disturb the popular habits of centuries. A beginning has, however, been made, at any rate in the way of village sanitation. Whatever is done must be done gradually. *Festina lente* is regarded by those who are practically acquainted with the habits of a conservative Oriental population as a good motto in India. Surgeon-Major-General Pinkerton states that the Hindoo of to-day is moving in sanitary matters faster than we did in the United Kingdom forty years ago, and we must lead and guide, but not press, the people.

### CRIMEAN REMINISCENCES.

Those of our Service readers who have not already perused the articles entitled "Reminiscences of the Crimea," by Sir Evelyn Wood, which have appeared in the *Fortnightly Review*, will be glad to have their attention called to them, for they are highly interesting reminiscences graphically related. The third of the series in the current number of the *Fortnightly* forms no exception to its predecessors, and deals with several matters of interest to medical officers. The two things which most forcibly strike the reader are the great bravery and fortitude of the British soldier and the blundering incapacity of the supply departments of that time. There is no need to refer to any causes in particular for all that happened then, for the most ordinary precautions and experiences of daily life were neglected; the size of the force was quite inadequate for the purposes of the expedition; it was overworked, ill-fed, and badly clad, with results that were inevitable under such circumstances during a Crimean winter. These points are vividly set forth in the history of Sir Evelyn Wood's experiences. He says emphatically that administrative efficiency cannot be attained unless the necessary departments are maintained and practised in their duties. Notwithstanding the difficulty of testing the efficiency of field hospitals and bearer companies in peace manœuvres, Sir Evelyn Wood states that the medical officers did their best on the occasion of the attempt that was made on a small scale at Aldershot this year. It must always be borne in mind that our disastrous Crimean experiences were primarily the fault of the Government, which was quite unprepared for what it had undertaken, and neither knew what to do nor how to do it.

### THE AGRA LABORATORY.

We have occasionally alluded to the scientific work performed by Mr. Hankin, the chemical examiner and bacteriologist of the Indian Government at Agra. The *Pioneer Mail*, *apropos* of the appearance of the first annual report of the bacteriological and other investigations carried on in the Agra laboratory during 1893, calls attention to its scientific and practical value and to the number and variety of the investigations that Mr. Hankin has undertaken. We are glad to notice an evident desire on the part of the Indian Government to apply to that country the latest methods of research employed in Europe. In a large country like that of India, with its European and native armies and vast native population, there are, as everybody knows, a number of problems concerning the exact nature and causes of various diseases that are pressing for solution. The great and apparently increasing prevalence of typhoid fever among our young officers and soldiers serving in India is, to name one, a matter of grave importance to this country, for it yearly entails a terrible loss of young life. We should like to see the number of these laboratories increased, and some system organised and perfected in India for carrying on investigations of this nature.

### THE EFFECTS OF MODERN RIFLES.

The attention of medical officers has no doubt been directed to the reports which have appeared in several public journals of an address delivered by Mr. Victor Horsley, F.R.S., at Toynbee Hall. After explaining the effect of a bullet fired from a modern rifle on solid matter, and the different results caused by wet and dry substances, which he illustrated by several interesting experiments, Mr. Horsley went on to say that a bullet travelling through the brain at high velocity produced an explosive effect, which damaged the base of the brain and caused, not heart failure from shock as is usually believed, but failure of the respiration. This had now been proved, he said, by the experiment which he described, and the important point it indicated was that the proper treatment was that resorted to in the case of drowned persons—artificial respiration.

### OBSERVATIONS UPON THE MEDICAL DEPARTMENT OF THE BRITISH ARMY.

The Secretary of War of the United States has authorised the publication of Brevet-Lieutenant-Colonel A. A. Woodbull's observations upon the Medical Department of the British Army, made in 1891. These observations are abridged from the official report of the writer, who is a major of the Medical Department, U.S. Army, and was instructed by his Government to study, whilst on a mission to this country, the British military hospitals, the army medical school, the duties of the medical officers, the sanitary administration of barracks and camps, and particularly the instruction and service of the Medical Staff Corps, as well as the system of physical training in the British army. We have received a copy of those observations, but must for the present defer their consideration.

### A CART WATER TANK FOR FIELD SERVICE.

After an inexplicable delay of eight years the water cart invented by Major J. Jones, late R.E., which was ordered in 1886 by the Secretary of War to be adopted in the service, is to supplant the bent-axle water cart condemned for service at the Cape of Good Hope. Among the advantages claimed for these carts, 150 of which are being made, are the following: adaptability for filling water bottles, with a saving of water and greater facilities and despatch for the supply of the troops; facility of cleansing—the water does not rush at once from one end of the tank to the other when ascending or descending a hill; the tank forms a good raft, and is capable of carrying a weight of 560 lb.

### INDIAN MEDICAL SERVICE DINNER.

Surgeon-Major-General Turnbull, of the Bombay Medical Establishment, presided on the 24th ult. at the first of what it is hoped will be a series of annual dinners, at which the reunion of the members of the Medical Staff in the Presidency will take place. Some of the guests travelled hundreds of miles in order to be present, and the chairman said he hoped the present meeting would be a reminder that the Medical Staff was not a heterogeneous assembly of atoms, but integral portions of a solid and noble fabric, adorned all over with great traditions of valour, of self-sacrifice, and sympathetic alleviation of human suffering.

### THE LATE CHOLERA OUTBREAK AT THE JAMSETJEE JEEJHEEBHOY HOSPITAL.

We called attention a short time ago to an outbreak of cholera that had occurred in a large native hospital at

Bombay. The matter has since been most carefully investigated and reported upon, without discovering, however, a definite cause for the outbreak or the exact channel of infection. But many very serious defects in the sanitary condition of the hospital have been brought to light, and we shall take another opportunity of adverting to the subject.

The *Victoria* sailed from Bombay on Nov. 9th with fourteen patients for Netley. She is due at Portmouth about the 29th inst.

The next examination for commissions in the Army Medical Service will commence in London on Feb. 15th next.

Surgeons who are eligible for the rank of Staff-Surgeon will be examined at Haslar Hospital on Jan. 6th next.

# Correspondence.

"Audi alteram partem."

## "THE GENERAL MEDICAL COUNCIL AND THE BRITISH PHARMACOPŒIA."

*To the Editors of* THE LANCET.

SIRS,—May I be permitted respectfully to demur to your suggestion (in the leading article on the above subject in THE LANCET of Dec. 15th) that, in relation to the Pharmacopœia, I had "overlooked" a clause (of the Medical Act of 1858) which deprived my argument of force. You quote the clause in question, in which the Pharmacopœia is described as "a book containing a list of medicines and compounds, and the manner of preparing them, together with the true weights and measures by which they are to be prepared and mixed, and containing such other matter and things relating thereto as the General Council shall think fit." I read the whole of this clause to the Council, and am still of opinion that it sustains my argument and that it affords no justification for converting the Pharmacopœia into a sort of Whitaker's Almanac. In English composition, as I understand it, the relative refers to the last antecedent; and the meaning of "thereto" is, unquestionably, "to that," and not "to these." In the clause quoted, therefore, "relating thereto" is an abbreviated form of "relating to the true weights and measures by which medicines and compounds are to be prepared and mixed," and it is nothing else. Even if we suppose that the draughtsman of the Act did not know how to express his meaning correctly, and if we improperly so extend the scope of the relative as to make it include the aggregate of the antecedents, we do not carry the matter much further; and the suggestion that the Pharmacopœia should state the supposed curative properties of medicines, or the times of high water at London Bridge, or the birthdays of European Sovereigns, could only be seriously entertained by those who either hold, with the late Dr. Tupper, that a complete treatise on any subject would embrace all others, or else that the General Medical Council, like the Emperor Sigismund, should be "supra grammaticam." I think it should be borne in mind, when considering the whole question, that the Pharmacopœia has one object, and one only—that of securing uniformity of strength and composition in all preparations which are sold under certain names. Hence, an important matter "relating to" its province is a list of synonyms, such that, for example, a druggist may not with inpunity omit opium from compound tincture of camphor in order to sell it as "paregoric elixir," or alter the composition of compound powder of ipecacuanha in order to sell it as "Dover's powder." An attempt to expand the Pharmacopœia into a treatise on pharmacology, or into a guide to the uses of medicines, would, in my humble opinion, be an unwise interference with private authors, and would commit the Council to current hypotheses which time might not confirm; while additions to, or omissions from, the number of included preparations should be solely governed by the consideration whether those in question were sufficiently used by practitioners to render uniformity in preparing them a matter of importance.

May I also make a very small correction in your generally excellent report of the proceedings of the Council? I did not describe myself as the "helpless" (which I hope, indeed, would not be an entirely accurate description) but as the "innocent and hapless" cause of a certain debate in which I felt called upon to take a part.

I am, Sirs, your obedient servant,

R. BRUDENELL CARTER.

Harley-street, W., Dec. 17th, 1894.

## VACCINATION AND SMALL-POX.

*To the Editors of* THE LANCET.

SIRS,—Do you not think it would be desirable to insert in the weekly returns of small-pox furnished by the various boards a statement regarding the vaccination of the fatal cases—i.e., how many have been vaccinated, and of these, when and with what success it was carried out; and how many cases had not been vaccinated? It appears to me that a statement of the age of the patients who have died should also be inserted.

We require evidence of this sort to be constantly before the public mind, as well to strengthen the faith of the adherents of the practice as to convert those who are faithless. The cases reported weekly do not seem very numerous and I am sure THE LANCET, through its widespread agencies, could easily collect the desired information. It would probably be enough for the educational purpose now in view to publish in the above form the returns from the six largest towns in the three kingdoms, or say, three in England and two each from Scotland and Ireland.

I am, Sirs, yours faithfully,

JOHN SMYTH, M.D., Surgeon-Major.

St. James's-square, S.W., Dec. 4th, 1894.

*** The desirability of giving such information is unquestionable, and as regards London it could be given weekly. In regard to the large towns showing from time to time any notable prevalence of small-pox the data, so far as obtainable, might perhaps be noted quarterly. It would not seem practicable to give the facts at shorter intervals.—ED. L.

## EPIDEMIOLOGY AS A "DISCIPLINE."

*To the Editors of* THE LANCET.

SIRS,—Mr. Shirley Murphy, in his presidential address to the Epidemiological Society,[1] was good enough to mention me as having made an excellent translation of a German word used by Professor Hirsch in the preface to his standard work on the Comparative Study of Diseases in all Climates. It may seem ungracious, but I am unable to accept Mr. Shirley Murphy's compliment, notwithstanding its obvious sincerity and high intrinsic value. The word in the preface was so far from being excellently rendered by me that it has actually misled Mr. Shirley Murphy himself as to the meaning of the original German. Professor Hirsch is claiming (and justly) to have made his subject for the first time "eine Doctrin," or to have "made good its right to a place among the medical sciences." Perhaps the best illustration of this is that the author was called from being a general practitioner at Dantzic to represent his subject in the Berlin Faculty of Medicine when he had published only one half of his work. The subject was "eine Doctrin" because it was a body of knowledge so well discussed, digested, and agreed upon that it might be taught and ought to be taught from the chair. It seemed to me that the English word "doctrine" might convey some other meaning than this (as in "the doctrine of the Nicolaitanes, which thing I hate"), and I took instead the word discipline, which was, indeed, somewhat old fashioned in its scholastic sense (*disciplina*) and a subject matter that might be and ought to be learned by pupils. Mr. Shirley Murphy thinks "discipline" excellent for the reason (if I understand him aright with the help of your leading article) that there is some suggestion in it of a rod for the fool's back—for the incorrect reasoner, the hasty generaliser, the visionary, the enthusiast, the sciolist, and the like. I quite agree with Mr. Shirley Murphy that all such persons should be sternly discouraged, but I do not think that "discipline" in the context of Professor Hirsch's preface meant more than a body of knowledge fitted for didactic use, or in a fit state to be imparted to those who were still in their pupilage and almost bound to receive implicitly what was delivered to them from the chair. It was in this sense that Cullen spoke of delivering the doctrine; for example, "I have no proper doctrine to deliver under the general head of alteratives." A meaning is sometimes made clearer by its opposite. Two instances occur to me of departments of study, each of them attended by an enormous

[1] THE LANCET, Dec. 15th, 1894.

amount of writing, which have not yet attained the indisputable rank that Professor Hirsch claimed for his subject. The first is so-called Darwinism, which Professor Virchow some years ago protested, in the name of scientific freedom, was not an educational subject at all, or one that lent itself to the didactic and somewhat aggressive manner of Professor Haeckel and other exponents of it at that time. The second instance was the other day, when the General Medical Council carried "the previous question" against a motion, "That in every course of professional study and examination bacteriology be contained."

I am, Sirs, yours truly,

Dec. 17th, 1894. C. CREIGHTON.

## "THE INFLUENCE OF HEREDITY IN PHTHISIS."

*To the Editors of* THE LANCET.

SIRS,—The extremely short time at my disposal at the end of the discussion on Dr. E. Squire's paper on the above subject at the Royal Medical and Chirurgical Society[1] on Tuesday last prevented me from touching on several points of importance upon which I shall be greatly obliged if you will allow me to supplement my remarks. One of the chief objects of the paper was to show that "the influence of heredity cannot be put higher than 9 per cent. of cases amongst the children of phthisical parents in excess of the cases occurring amongst the children of non-phthisical parents." The difference was attributed to the greater liability to infection in the home to which the children of consumptives are exposed. I desire to point out what I believe to be a fallacy in the method followed by Dr. Squire in arriving at the apparent influence of heredity. The method is as follows. In 474 cases of phthisis the total number of children in the family to which the patient belonged was ascertained. In 275 of these families the parents were non-phthisical; in 199 one or both parents were phthisical. In the former class 24·87 per cent. of the children attaining to adult age were consumptive, as against 33·71 per cent. of the latter. The difference, 9 per cent., is supposed to show the influence of heredity. The information was obtained from the verbal statements of the patients.

Now it will be observed that Dr. Squire starts with a consumptive member of a family and works back to the parents, thus practically assuming that there is a consumptive in every family. No account is taken of the fact that in every 474 families, not selected, there will be many in which no member is consumptive. This is the fallacy which, I submit, completely vitiates the conclusion that "the influence of heredity cannot be put higher than 9 per cent."

In Dr. Reginald Thompson's work on Family Phthisis there is a table precisely similar to Dr. Squire's, showing the incidence of phthisis upon the children of consumptive parents, in which, although the percentages differ, the gradation of hereditary influence is the same:—

| | Dr. Squire. Per cent. | Dr. Reginald Thompson. Per cent. |
|---|---|---|
| Father phthisical ... ... | 31·8 ..... | 34·0 |
| Mother phthisical ... ... | 34·4 ..... | 39·3 |
| Both parents phthisical ... | 39·5 ..... | 56·4 |

This is an important point, and strongly supports the view that there is "a direct hereditary predisposition" to the disease transmitted, and not merely a "general inherited delicacy." The general tone of the discussion clearly showed a tendency to ignore the importance of the hereditary factor and to insist upon infection as the only point worthy of consideration. I am fully impressed with the necessity of adopting all measures tending to diminish the chances of infection; but I hold that it will be a grave error if the profession should be led by the fascination of this element of the problem to cast aside the experience derived from centuries of observation. The fact that the President was obliged to ask Dr. Squire to define the term "phthisis" shows that the disadvantages which attended its use still remain. I have been compelled to apply it here, but I am glad to say that I have not seen a case for years. There is no greater difficulty in deciding whether or not a patient is suffering from "pulmonary tuberculosis" than attends the diagnosis of many other diseases, and I can promise those who use the latter term that their non-tuberculous cases will at once assume an increased interest.

I am, Sirs, yours faithfully,

Dec. 18th, 1894. J. K. FOWLER.

[1] THE LANCET, Dec. 15th, 1894.

## "THE ETIOLOGY OF TYPHOID FEVER."

*To the Editors of* THE LANCET.

SIRS,—In reply to Dr. Kenwood's first question,[1] it being a bacteriological one I do not feel competent to discuss it. I mentioned in my former letter that I entered this discussion solely from the epidemiological point of view, and with all deference to Dr. Kenwood I do not intend departing from that standpoint. The bone of contention between us is that Dr. Kenwood believes typhoid fever, considering it epidemiologically, can arise *de novo*, because in a large number of cases of typhoid fever we are unable to trace the source of the disease to a previous case. I, on the contrary, contend that the disease under these conditions does not arise *de novo*. I prefer to believe that when we are unable to trace the disease to a previous case it is due either to our having failed in tracing every known means by which infection is spread, or, more probably, that we do not yet possess complete knowledge of the various media by which the disease is communicated from one person to another. With reference to Dr. Kenwood's question as to whether I contend "that, in the case of small-pox and the other infectious diseases mentioned, it is equally easy [as it is in typhoid fever] to exclude all the possibilities of such infection," I reply in some, Yes; in others, No.—I am, Sirs, your faithfully,

Piazza di Spagna, Rome, Dec. 1st, 1894. JOHN J. EYRE.

## SYME'S TREATMENT OF URETHRAL STRICTURE.

*To the Editors of* THE LANCET.

SIRS,—In common, I am sure, with all your readers, I have been greatly interested in Mr. Pemberton's Bradshaw lecture upon James Syme, fully reported in the last number of THE LANCET. James Syme has been called the "Napoleon of surgery," but I would rather liken him to Wellington, for I yield to no one in my admiration for all the manly and surgical qualities that Syme possessed. But the best surgeon as well as the best general is only he who makes the fewest mistakes, and there is one point in Mr. Pemberton's lecture which I think calls for remark. Mr. Pemberton gives unqualified praise to Syme's treatment of urethral stricture by external division, and asserts "that this treatment maintains at this day the value claimed for it by Syme, bringing about a permanent relief from an intolerable and complicated malady." On Nov. 13th, 1852, Professor Syme addressed a letter to the Imperial Academy of Medicine in Paris on this subject, and stated as the principles of his proposal: "(1) That there is no stricture truly *impermeable*, and that, with time and care, an instrument may be passed through it and serve as a guide for the knife; (2) that all strictures which cannot be remedied by simple dilatation admit of effectual relief only through a free division of the contracted part of the canal; (3) that the object can be attained with certainty and safety only by an external incision, in a line corresponding with the raphé of the perineum, upon a grooved director passed through the stricture; (4) that the only after-treatment required is the introduction of a catheter during forty-eight hours, with the subsequent use of a full-sized bougie at distant intervals; (5) that the operation, if properly performed, is free from any risk whatever of hæmorrhage, extravasation of urine, or fistulous opening." These principles have now been before the profession for forty years and may well be reconsidered. I for one, while gratefully acknowledging what I believe to be the absolute truth of the first two propositions, strenuously controvert the third, fourth, and fifth, and do so from a sense of surgical duty.

Beginning with the first principle enunciated by Syme, I am satisfied that we may add the following two riders to it: (*a*) that when an instrument has been fairly passed into the bladder through a strictured urethra, the instrument may be withdrawn and replaced by one a size larger, if the surgeon trusts himself; (*b*) that all strictures may in this way be dilated up to No. 6 or 7 (English), and when so dilated a

[1] THE LANCET, Nov. 24th, 1894.

Civiale's urethrotome may be introduced and the stricture or strictures cut, so that a No. 15, 16, or 17 may at once be passed into the bladder. I fully admit the truth of the second proposition, and leave the third for consideration at the end of my letter. I cannot agree that Professor Syme was correct in his fourth principle, for I have met with several of his patients who have come on account of severe urethral trouble. One of these gentlemen, now aged seventy and known to me for twenty years, has had to deal with a tight and troublesome stricture ever since his external section. He is now obliged to pass a No. 6 metal instrument every other day. The fifth proposition is, however, in my experience the most seriously incorrect. I readily allow that external division is not followed by extravasation of urine, but I cannot admit that "it is free from any risk whatever of hæmorrhage or fistulous opening." I have seen and heard of the most severe and intractable hæmorrhages, and have seen and been asked to cure several cases of permanent fistulous opening resulting from this operation. There is no more intolerable condition than that induced by such a fistula. A man of refinement so afflicted may find life not worth living; this was proved a few years ago by a gentleman well known to me shooting himself through the head after an unsuccessful attempt had been made to close the fistula. And lastly, I am obliged to dissent entirely from the third principle. Professor Syme urged that internal urethrotomy "should be banished from the practice of surgery."[1] Twenty years devoted to the practice of urinary surgery have convinced me that in internal urethrotomy we have the most valuable of all the methods of treating organic urethral stricture. In my paper on "The Treatment of so-called Impassable Urethral Stricture," read before the Harveian Society,[2] I showed that the very worst cases of stricture could be dilated and internally divided at one operation by any surgeon imbued with the truth of Syme's essential or first principle, and my two riders. These patients need only be detained in bed a week, or at most a fortnight, and are exposed to no risks either of fistula or from hæmorrhage, the results being excellent and lasting.

I am, Sirs, yours faithfully,

Wimpole-street, W., Dec. 17th, 1894. G. BUCKSTON BROWNE.

## "THE LOSS OF LIFE FROM PREVENTABLE DISEASE."

*To the Editors of* THE LANCET.

SIRS,—I have read with much pleasure in THE LANCET of Dec. 15th both Mr. Shirley F. Murphy's most interesting and able address before the Epidemiological Society and also your leading article on the same. We are forced to the conclusion that the school operations play an important part in the spread of epidemic diseases. The question naturally arises, Would not this be in a considerable measure counteracted by a system of daily medical school inspection—in the large towns, at least? In this way a scholar with illness would be examined, and if found suffering with infectious disease would be sent home and isolated. In the case of whooping-cough, which has a high mortality, it is by no means rare to find children with the disease regularly attending school, or others from the infected house will come. The want of notification in this disease is a matter for regret. With regard to the effect of light upon the prevalence of epidemic diseases, which Mr. Shirley Murphy dwelt upon in his address, and which, for fear of destroying the colour of their carpets and curtains, the better classes are so anxious to exclude, we must hope that more extended knowledge will lead to a different line of action. I am, Sirs, yours truly,

EDWARD SAMUEL LEE, M.D.

St. Leonards-on-Sea, Dec. 15th, 1894.

## "THE BARIUM WATERS OF LLANGAMMARCH AND THE THERAPEUTICS OF BARIUM SALTS."

*To the Editors of* THE LANCET.

SIRS,—Dr. W. N. Thursfield has called attention in THE LANCET of Dec. 15th to a mineral spring near Shrewsbury which contains barium chloride "in considerably larger proportions" than the Llangammarch spring. This can hardly be regarded as a recommendation when viewed by the light of his further remark that it "is stated in books to be a powerful poison in large doses." I am not aware that it has been proposed to be given in large doses any more than arsenic or phosphorus, both of which are valuable medicines in small ones and both of which also share the distinction which Dr. Thursfield claims for barium carbonate of having been "much esteemed as a rat poison." It appears to me that a great recommendation of the Llangammarch spring is that it contains just that quantity of the barium salt which renders its administration in tumbler doses perfectly safe, and also that it exists in that spring in combination with other salines which tend to increase its efficacy and render it more agreeable. In fact, the formula is such as it would be difficult to improve upon. If there be one medicinal substance more applicable than another for administration in the form of a natural mineral water barium is certainly that one, as in this form all risk of accident from an overdose is excluded, and medical men will feel reassured when thus prescribing a hitherto unfamiliar and potent drug. With apologies for thus further trespassing upon your valuable space,

I am, Sirs, yours faithfully,

Dec. 17th, 1894. FREDERICK GEORGE, M.D.

## DOMESTIC DRUGGING: A CASE OF ANTIPYRIN POISONING.

*To the Editors of* THE LANCET.

SIRS,—May I echo the warning note of alarm raised by Dr. Tom Robinson in THE LANCET of Nov. 17th on the subject of domestic drugging and the increasing popularity of such drugs as antipyrin? The other day I received an urgent message to attend a visitor to the town. On my arrival I found the patient in a state of extreme collapse, pulse feeble and fluttering, cold clammy skin, vomiting, &c. With difficulty and after prolonged effort she rallied, but her condition for many hours was most grave. On making inquiry I learned that, on the advice of a lay friend, she had taken ten grains of antipyrin; not obtaining immediate relief, she took a second dose, followed by a third, within a short space of time. I may say I could find no organic heart disease, but the patient was very anæmic, and for some time had suffered from fainting attacks. There had been no difficulty in obtaining the drug, nor had she any idea apparently of its potency. "Why, my dear doctor," she replied with a smile, "all my friends take it." No doubt her own immediate circle of acquaintances will, after this, see the error of their ways; but what of the unfortunates who have not a kind friend to experiment and draw clinical pictures for their benefit?

I am, Sirs, yours truly,

Southport, Dec. 17th, 1894. STANLEY MELVILLE.

## "THE TREATMENT OF CHRONIC DISEASES OF THE HEART BY BATHS AND EXERCISES, ACCORDING TO THE METHOD OF THE DRS. SCHOTT."

*To the Editors of* THE LANCET.

SIRS—There is an article in THE LANCET of May 5th, 1894, by Dr. Bezly Thorne on this method of treatment. The Drs. Schott may call it their treatment with some degree of justice perhaps, but not wholly so; for if the baths be left out their treatment is identical with what has long been practised in Sweden, and also, though not so long, on the Continent. In fact, it is nothing more or less than what is popularly called the "Swedish movement treatment," and I venture to think there can only be one opinion as to the value of this treatment in selected cases of chronic heart disease. Without entering on the much-discussed and disputed question whether mineral waters taken as baths have any beneficial effect apart from their thermal qualities, let us consider what the effect of the Nauheim baths are, according to the Drs. Schott. 1. Thermally they act—firstly, by dilating the cutaneous capillaries and thus facilitating the work of the heart by lessening the capillary resistance; secondly, and as a result of their primary thermal action, they give the heart muscle time and opportunity of more thorough contraction and of more rest. 2. By reason of the water containing minerals in solution the baths act by enabling the body to absorb these through the

[1] THE LANCET, Feb. 17th, 1849.
[2] Brit. Med. Jour., Nov. 26th, 1892.

skin. My points are these: An ordinary hot bath—i.e., not a mineral one—will answer exactly the same purpose thermally as the Nauheim baths, which are so warmly recommended by the Drs. Schott. And, if the Nauheim waters are so absolutely necessary in order to effect a cure, surely more minerals would be absorbed by the system if taken internally than if merely applied externally in the form of baths. I argue, therefore, that patients suffering from chronic heart disease need not be put to the inconvenience, fatigue, and risk of travelling to Nauheim in order to undergo this special treatment.

I am, Sirs, yours faithfully,

Eastbourne, Dec. 7th, 1894. OTTO HOLST.

## CANCER AND TUBERCLE.

*To the Editors of* THE LANCET.

SIRS,—In your leading article on "The Study of Heredity" in THE LANCET of Dec. 8th reference is made to Sir J. Paget's statement that "it has never been carefully studied what may be the result when one parent is a member of a cancerous family and another a member of a tuberculous family" &c. From subsequent remarks I conclude that the writer of your article, like Sir J. Paget, is unacquainted with the work done by me in this direction.[1] From the very standpoint advocated by Sir J. Paget I have investigated the inter-relations of tubercle and cancer on a far larger scale than has ever before been attempted. Some idea of the extent of this investigation and the amount of labour involved may be gathered from the fact that it comprises analyses of the family history of over 500 cancer patients, from data collected from the patients by myself on a uniform plan. For each local variety of the disease statistical summaries of the results thus derived have been deduced, there being separate summaries for each sex. The information thus forthcoming as to the family history of cancer patients is, I believe, the fullest and most complete hitherto published. I have taken the liberty of thus calling attention to this matter because it seems to me desirable that the facts thus elicited should be more widely known than they at present appear to be, and because I think but scant justice is done when men like Sir J. Paget and the writer of your article ignore results arrived at after such arduous labours.

With regard to the subject immediately under discussion my conclusions are briefly as follows:—1. Pulmonary tubercle is by far the most prevalent disease among the relatives of cancerous persons. Such persons are very much more prone to it than the rest of the community; indeed, their liability is so considerable as even to equal that of the phthisical themselves. 2. A large proportion of cancer patients are the surviving members of tuberculous families. 3. No heritable condition is more favourable to the development of cancer than that which predisposes to and accompanies tubercle. 4. Nevertheless, between tuberculous and cancerous manifestations there is a certain antagonism, for it is very rare to find both diseases in active progress in the same individual. 5. As a rule, where tuberculous diseases are most prevalent there cancer is rarest. 6. The great increase of cancer during the last half century has coincided with a remarkable decline in the death-rate from tuberculous diseases, especially phthisis. It seems to me exceedingly probable, from considerations derived from the study of the family history of cancer patients, that a large proportion of those thus saved from tubercle eventually perish from cancer and insanity, and I think the increase in the latter disease has largely been brought about in this way. 7. It will be gathered from the foregoing that I regard the predisposition to cancer as closely allied to the tuberculous predisposition, of which in all probability it is but a diluted form.

I am, Sirs, yours truly,

Preston, Dec. 13th, 1894. W. ROGER WILLIAMS.

## A WARNING.

*To the Editors of* THE LANCET.

SIRS,—I shall feel much obliged if you will insert in your columns a caution to the profession not to send any post-office orders unless crossed or number taker, and to register stamps, as during the last month I have daily received letters complaining that although post-office orders for 2*s.* 6*d.* to 5*s.* had been sent no lymph had been returned. It, of course, was impossible for me to comply with orders not received.

I am, Sirs, yours faithfully,

WM. FAULKNER, M.R.C.S.,

Endell-street, Dec. 18th, 1894. Calf Vaccine Institute.

[1] Q.v., Middlesex Hospital Surgical Reports, 1882 to 1889, especially the two last of these reports. THE LANCET, May 14th, 1887, Cancer and Phthisis as Correlated Diseases. THE LANCET, Jan. 23rd, 1886, the Family History of Cancer Patients. Medical Chronicle, January, 1893, Hereditary Proclivities correlated with Cancer, &c. See also my recent work on Diseases of the Breast.

## THE LATE DR. FRANCIS BISSETT HAWKINS

*To the Editors of* THE LANCET.

SIRS,—As one who knew personally and highly esteemed the late Dr. Bissett Hawkins, may I be allowed to supplement the obituary notice in THE LANCET of Dec. 15th? Many who knew little of Dr. Hawkins' honourable professional career will regret his loss as a gentleman of unbounded charity and benevolence, and one who bestowed his gifts with singular kindly consideration. By the inhabitants of his own village his loss will be greatly felt. Year after year they were the recipients of his bounty, one of his last acts being the judicious renovation and enlargement of the parish church. Possessed of ample wealth, he most liberally shared that wealth with others. Though living to so advanced an age, Dr. Hawkins' mental powers appeared unimpaired, and he continued to take an interest in professional matters. He usually spent six months of the year at Lewell Lodge, his seat near Dorchester, and six months at Bournemouth. His grandfather as well as his father were members of the medical profession. His younger brother, the Rev. Bentinck Hawkins, F.R.S., died last August at the age of ninety-two. At the time of his death Dr. Bissett Hawkins was not only the Senior Fellow of the Royal College of Physicians, but also the Senior Fellow of the Royal Society and the oldest graduate of the University of Oxford.

I am, Sirs, your obedient servant,

Dec. 15th, 1894. F.R.C.P.

## LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

*Small-pox: Vaccination and Revaccination.*

ALTHOUGH, as has already been noticed, the cases of small-pox here have been comparatively few and are gradually diminishing, they have sufficed to cause a scare. Because one prominent tradesman was so unfortunate as to contract the disease and to communicate it to a member of his family a report was spread that a large proportion of the men and women employed in his establishment were also infected, which was wholly untrue. And as if this repetition of the "black crows" story were not enough, similar unfavourable reports were spread abroad of other large tradespeople, causing an amount of loss and annoyance quite incalculable. It was also rumoured that whole streets in the south of the city were closed and black flags hoisted at the ends to warn people away. Good, however, has come out of evil, and large numbers of persons have submitted themselves and their families to revaccination. Primary vaccination is performed as efficiently as is possible in this city and neighbourhood, but there is plenty of room for improvement in the matter of revaccination.

*The Perils of Policemen's Lives.*

That a policeman's life is not a happy one is too often verified in this city by stern facts. Some years ago a policeman owed his life to the circumstance of there being a note-book in his pocket which had prevented a knife used with murderous violence from penetrating his chest. More recently another constable was saved from a similar penetrating wound by a pocket-handkerchief which he kept rolled up inside his tunic. At the present time a man stands charged with wounding two constables—one on the chest, the other on the abdomen. In the latter case the weapon penetrated two coats, one containing a pocket-handkerchief which was rolled up, and which it penetrated. This same officer was not long ago assaulted and thrown into the canal.

*University College, Liverpool.*

Apart from its medical school, the Liverpool University College has already proved of great value, which will be enhanced as time advances. This city contains a large number of young men whose employment comprises certain hours in the day, leaving the evenings unemployed. These

could not be more profitably spent than by attending one or more of the evening lectures at the College; some already do so, and it is greatly to be hoped that the number will increase. "What to do with our boys?" is a question often asked. The Right Hon. A. B. Forwood, M.P., has shown that young men with a competent knowledge of the Spanish language may make a living abroad, and the same is probably true of other modern languages.

*Criminal Assaults on Females.*

At the recent assizes Mr. Justice Wills had before him many cases of criminal assaults on women and children, except in a very few instances a conviction following either for the full crime or for the attempt, and very exemplary sentences were passed. Within the last twelve months two men have been convicted, each for attempting to outrage a child of less than five years of age. A very general consensus of opinion here is that such offences should be punished with the lash.

Dec. 17th.

## SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

*New Dental Hospital and School, Edinburgh.*

THE Dental Hospital and School in Edinburgh has had a temporary home in at least four different buildings. Now they have acquired a permanent home, which was formally opened by the Lord Provost of the city at the end of last week. The new quarters are situated in Chambers-street, and are thus in the centre of the teaching quarter of the town. The purchase of the property and the necessary alterations have entailed an outlay of £6000, £4000 of which remains at present as a debt. The work done by this hospital has greatly increased during recent years, and last year the number of patients was nearly 12,000. Not only has the hospital been thus of benefit to many poor persons, but it has also been a valuable training school for dentists, and in this latter respect it is steadily growing in popularity and reputation, and is attracting dental students from a distance. Mr. Bowman Macleod is dean of the school.

*Infectious Diseases in Edinburgh.*

Amongst the infectious diseases intimated during the past week there were 26 cases of small-pox, 45 of scarlet fever, and 155 of measles. The deaths included 2 from small-pox.

*The Christmas Vacation.*

The Christmas vacation in the medical school will begin on Friday of this week and will last until Tuesday, Jan. 8th.

*The Aberdeen Medico-Chirurgical Society.*

The annual dinner of the Aberdeen Medico-Chirurgical Society was held in the society's hall on Saturday, the 15th inst. In the absence of Professor Stephenson, President of the society, Dr. Ogilvie Will, Vice-President, occupied the chair. The meeting was highly successful, and, as pointed out by several of the speakers, the society was never so prosperous as it is at present. A great many young members have just joined and more interest is taken in the meetings. Professor Stephenson was absent on account of the recent death of his second son, Dr. Charles T. Stephenson. The members expressed their sincerest sympathy for Professor Stephenson and his family in their sad bereavement. Professor McKendrick, Glasgow, was present as a guest, and in an eloquent speech proposed the "Aberdeen University and Medical School." This toast was coupled with the name of Dr. Angus Fraser, who, in responding, said it was a matter for regret that not a single member of the professoriate was present to respond for the university.

*Health of the City of Aberdeen.*

Measles continues to spread and is now epidemic; scarlet fever is also with us, and diphtheria was represented by two cases last week. There were also ten cases of erysipelas reported. Prompt action by the sanitary officials stamped out a threatened outbreak of small-pox. The death-rate is now very high.

*Enteric Fever in Arbroath.*

The Notification Act has been adopted in Arbroath, and the community is already reaping the benefit. Acting on information resulting from certification under the Act, an outbreak of enteric fever affecting forty-four persons has been traced to an unrecognised case at a dairy. The patient at the dairy was a woman sixty-four years old, who had been waited on by two other women, who also milked the cows, washed the milk vessels, and attended generally to the sale of milk. Many of the later cases of the outbreak were not directly attributable to the milk sale, secondary centres of infection having no doubt been established. It is a little surprising to note that "the epidemic hospital had been opened and four cases had been treated therein." In a town like Arbroath, with nearly 24,000 inhabitants, one would expect that sufficient advantage would be taken of the fever hospital to prevent its ever being closed, and four enteric fever cases out of forty-four make a very small proportion of admissions to hospital. It is reported that in one instance, in which an entire family was prostrate, the local authority had to take full charge of the cases and provide nursing and all necessary comforts. Quite possibly, of course, there may have been local circumstances which made it necessary to do all this in the dwelling-house of the patients rather than in hospital; but if Arbroath wishes to take full advantage of the Notification Act it must have proper hospital accommodation permanently available and freely used. Meanwhile it is to be hoped that, acting under the advice of their medical officer of health, the local authority will be successful in stamping out the epidemic.

Dec. 18th.

## IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*Small-pox in Dublin.*

DURING the week ending Dec. 8th six deaths took place from small-pox, all the patients being unvaccinated. Thirty-one cases of the disease were admitted to hospital during the week and 91 remained under treatment on the 8th inst. Since the appearance of the disease in July last the deaths from it within the Dublin registration district have amounted to 47.

*Cottage Hospital for Little Bray.*

A cottage hospital will shortly be established in Little Bray, county Dublin, in memory of the late Rev. J. Healy, formerly the priest of the parish. It will be entitled the "Healy Hospital."

*Alcoholic Coma.*

Geo. Dobbs, aged forty-seven years, died last week in Dublin from the effects of excessive rum drinking. He was offered half a pint of rum by an acquaintance, and ten minutes afterwards drank a similar quantity; shortly afterwards he took a third half pint, and soon afterwards fell on the ground in a comatose condition. He was removed to hospital, but died the following morning. It is probable that proceedings will be instituted against the publican who sold the drink and the acquaintance of the deceased who paid for it.

*Richmond District Lunatic Asylum.*

At a recent meeting of the governors of this asylum a portion of the committee's report, which recommended the appointment of a lady medical superintendent, was adopted.

*The Royal Hospital, Belfast.*

Through the kind generosity of Mrs. Dunville, the women's operation ward in the Royal Hospital is now one of the most complete and perfect of its size to be seen anywhere. A Veit-Schroeder chair is used for examination and for vaginal and perineal operations, while for the laparotomies a glass operation table is employed. A very fine glass cabinet, with nickel-plated fittings, holds the instruments, which are sterilised in a vessel with the ordinary soda solution, heat being obtained by means of a gas burner. In a corner of the room is placed one of Lautenschläger's steam sterilisers, with Schimmelbusch's kettles, for rendering the dressings aseptic. There is also a special douche can and stand (capable of being raised and lowered) for continuous irrigation in vaginal operations. Further, wash-basins, for rendering the hands thoroughly clean, have been placed in the ward. The board of management of the hospital have passed a special resolution of thanks to Mrs. Dunville, and it has been decided to call this room, which she has so admirably fitted up, the "Dunville Ward."

*The Christmas Recess.*

The usual recess in the medical school will begin on Thursday, Dec. 20th, and work will be resumed on Tuesday, Jan. 1st, 1895.

*Belfast Medical Students' Association.*

The opening meeting was held at Queen's College on Dec. 14th, Dr. Tynass presiding. The President for the coming session, Dr. Dorman, was introduced, and read a paper on Troubles and Perplexities of a Newly-created M.B. The President of Queen's College (Rev. Dr. Hanneton) congratulated the students on the success which had attended their efforts on behalf of the Students' Union, and gave an outline of the plans of the new building which is to be opened in the course of next session. Professor Thompson spoke of certain grievances connected with the Royal University examinations under which the students labour.

Dec. 18th.

## PARIS.

(FROM OUR OWN CORRESPONDENT.)

*Is Simple Stricture of the Rectum in reality Syphilitic?*

M. VERNEUIL had recently under treatment a man aged sixty-eight years, pale, thin, and cachectic, who complained of a swelling of the anal margin which had, it appears, reappeared for the fourth time. M. Verneuil, imagining he had only to deal with a simple subcutaneous abscess, opened it by means of the thermo-cautery. All seemed to go well both locally and generally with the patient until the twentieth day, when the healing process was arrested and a thin serous discharge appeared. This led M. Verneuil to make a second wrong diagnosis (urinary abscess), and a urethral stricture from which the man suffered was treated by progressive dilatation. The thin discharge continued, however, and sharp pains were complained of in the neighbourhood of the wound, the edges of which became prominent. Defecation was difficult, the abdomen became tympanitic, and appetite and strength disappeared. Further examination revealed the presence of an ano-rectal gumma with stricture of the rectum, the man confessing to having had a penile chancre with the usual secondary sequelæ in 1888. Specific treatment, without any further surgical proceedings, brought about a rapid cure, the gumma soon being absorbed. M. Fournier regards this case as a confirmation of his views regarding the nature of simple or fibrous rectal stricture—viz., that it is always syphilitic. This idea has been contested on the ground of the usual inefficacy in these cases of specific treatment. According to M. Fournier failure is due to the treatment being applied too late, when sclerosis has done its work. He calls attention to these cases where, with a rectal stricture, there exist ano-rectal and ano-perineal lesions, the gummatous nature of which can be recognised *de visu*, especially when these lesions are ulcerated. In such cases regular anal fistulæ may develop (syphilitic fistulæ, described by the late Professor Trélat). M. Le Dentu, although he has only met with one success from the specific treatment of stricture of the rectum, concurs with M. Fournier's views as to its (the so-called simple stricture) syphilitic origin.

*The Typhus Fever Epidemic of Last Year.*

The report of MM. Dubief and Thoinot on the typhus fever epidemic which paid Paris and its environs an ephemeral visit in the spring of 1893 has recently been issued by the Prefecture of Police. The total number of cases in the Department of the Seine was 149. Of these patients no less than 101 were tramps. The rest comprised: (1) the *personnel* of hospitals—viz., nurses, medical students, and persons occupying adjacent beds to the sufferers—total, 24; (2) persons whom their callings brought in contact with tramps—viz., policemen, lodging-house keepers, &c.—total, 6; (3) persons brought accidentally in contact with tramps, such as *garçons, marchands de vin*, &c.—total, 8. The mode of infection in the remaining 10 cases is unknown. Of the 149 cases, 69 died—a mortality of 46·3 per cent. The incubatory period ranged from ten to twenty-three days. This little epidemic shows in a striking manner the important *rôle* played in its dissemination by tramps, and also the prophylactic efficiency of systematic disinfection. From the day upon which the dépôt of the Prefecture of Police—the focus of the disease—was purified and every tramp admitted thoroughly disinfected the epidemic ceased to spread.

*Louis Pasteur.*

The Paris Municipal Council has decided to rechristen the Rue d'Ulm and to give it the name of the illustrious *savant* M. Pasteur. The sum of 1500 francs is also voted for the erection in the École Normale Supérieure—situated in the Rue d'Ulm—of a bust of M. Pasteur. The readers of THE LANCET will remember that it was in the laboratory of the above-mentioned establishment that the researches upon which the science of bacteriology is based were conducted. The Rue d'Ulm is a quiet street connecting the Place du Panthéon with the Rue Guy-Lussac.

*How "Cognac" is Manufactured.*

In a thoughtful pamphlet just issued by Dr. Salomon, "Sur l'Alcoöl et la Dépopulation de la France," I find a recipe for a mixture which, added to any kind of *eau-de-vie*, will import to it the *bouquet* of cognac. Take a mixture of castor-oil, butter, cocoanut oil, and other fats, and allow nitric acid to act on it. The product is a mixture of propylic, butylic, amylic, pelorgonic, acetic, caprylic, œnanthylic, capronic, and valerianic acids. Etherify it by the addition of methyl, ethyl, and amyl alcohols, and a product is yielded from 100 to 150 grammes of which will convert a pipe of 100 hectolitres of *eau de-vie* into cognac. One centigramme of this *cognacogen* injected subcutaneously kills a large dog in ten minutes. One cannot help smiling sadly when one remembers that thousands of individuals pay up to a franc for a small glassful of this poison, declaring as they sip it that nothing equals a drop of good *fine champagne*, as the stuff is called, for helping a sluggish digestion after a generous dinner. There is surely "death in the pot."

Dec. 18th.

## VIENNA.

(FROM OUR OWN CORRESPONDENT.)

*The Diagnosis of Typhoid Fever.*

AT a recent meeting of the Vienna Society of Physicians, Dr. G. Singer called attention to the fact that in some cases of typhoid fever the roseolar may be replaced by a papular eruption. He had observed this at the Vienna General Hospital in twelve instances, in two of which the bacillus of typhoid fever was found on microscopic examination of the infiltrated cutaneous follicles, and cultures of the bacillus could be obtained. No positive result was yielded by bacteriological examination of the blood of these patients. Dr. Singer was of opinion that in doubtful cases it might sometimes be possible to base the diagnosis of typhoid fever on a bacteriological examination of the cutaneous eruption.

*The Influence of Oxygen and Carbonic Acid on the Size of the Red Blood-corpuscles.*

Dr. von Limbeck has recently investigated this question, using Bleibtren's method of measuring the dimensions of the red corpuscles. He found that when oxygen gas was introduced into the blood the red corpuscles were diminished in size, and that after the introduction of carbonic acid they became larger. Limbeck believes, therefore, that the red corpuscles charged with oxygen in the lungs remain small until they reach the tissues where they acquire carbonic acid, and that their volume thereupon increases.

*The Antitoxin Treatment of Diphtheria.*

The results obtained in Vienna with antitoxin have been favourable, as I have been informed by the majority of the Vienna pediatric physicians. A discussion on this method of treatment will take place at an early meeting of the Vienna Society of Physicians, and the statistical results obtained at the various hospitals for children will be presented. In a certain number of cases disagreeable after-effects, such as cutaneous eruptions and renal troubles, have followed its use. The Austrian Institute for the preparation of antitoxin will be able to supply it early in the new year, ten horses having been provided for this purpose. The results of the antitoxin treatment at Budapest will be published within the next few days by the well-known Budapest pediatric physician, Professor Bókay.

Dec. 18th.

## AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

*Action for Damages for Wrongful Detention as a Lunatic.*

ONE of those vexatious lawsuits to which members of the profession are liable in the execution of their calling has recently been decided in Brisbane, Queensland. In

November, 1892, Dr. MacDonald of Rockhampton was called upon by the police to examine a man under arrest at the lock-up. He found him to be of unsound mind, and, indeed, to be a man whose insanity he had certified to a few days before. Dr. Voss, the Government medical officer, gave a second certificate, and the patient was committed by a police magistrate to an asylum. He was discharged in March, 1893, and then commenced an action against Dr. MacDonald. At the trial overwhelming evidence of the man's insanity was produced, and the jury, without leaving the box, gave a verdict for Dr. MacDonald, who, all the same, has been put to much expense and inconvenience. It may be mentioned that the Lunacy Act at present in force in Queensland is modelled on the old Act which was repealed in England in 1890, and does not contain the sections in the new English Act giving power to the court to stay proceedings, if satisfied that there is no reasonable ground for alleging want of good faith or reasonable care; and that any action must be commenced within twelve months of the lunatic's discharge, and be brought in the place where the cause of action arose.

*Assault by a Surgeon.*

One of the sensations of the hour recently was an assault made by Mr. O'Hara, a well-known Melbourne surgeon, on Mr. Purves, the even better known Q.C. While giving evidence in court Mr. O'Hara was asked whether his fee was not excessive, and replied, "No; he had received £1000 for less work one night." Mr. Purves made no comment at the time, but in addressing the jury said that Mr. O'Hara's fee was excessive, and that as regards the fee of £1000 it was not stated whether it was for an illegal operation. A few days afterwards surgeon and Q.C met face to face in Collins-street, when Mr. O'Hara struck Mr. Purves and knocked him down.

*Additions to Hospitals.*

The committee of the Women's Hospital, Melbourne, have decided to build a new wing to contain thirty beds, and not to cost more than £1000. The Eye and Ear Hospital will also probably be enlarged shortly by the beneficence of Mrs. Aubrey Bowen, widow of one of the late surgeons to the hospital.

*New Forms of Disease of Microbic Origin.*

At the last meeting of the Victorian Branch of the British Medical Association, Dr. Springthorpe read notes of two cases which he regarded as new forms of disease. The first case was that of a boy aged fourteen years, who was admitted to hospital in the following condition. The temperature was 100·4° F.; the pulse 124, full and strong; the respiration was 44. He had an irritable, dry cough. The urine was blood-stained, of sp. gr. 1023, one-fourth albumen, and contained blood and granular casts. There was some congestion and puffiness of the eyelids and face. The skin was dry and free from eruption. There was evidence of acute œdema of the lungs. The day after admission localised swellings appeared on the left forearm and over the left chest and neck. The patient died in thirty-six hours. Cultures were made from serum extracted from the swellings on the arm, and a pure culture of the micrococcus tetragonus was obtained. A post-mortem examination was not allowed. The second case was that of a man aged forty-four years, who was admitted to hospital with a temperature of 100·4° F.; the pulse was 90 and the respiration 20. The tongue was dry and coated. There were sonorous rhonchi over the lungs. There were no spots, abdominal distension, or tenderness. The urine was of sp. gr. 1019, acid, and free from albumen. The illness began four days previously with pains in the stomach and legs and sweating. On the second day a rigor occurred, followed by sweating and some diarrhœa. The day after admission the temperature rose to 103·2°. The next day a hæmorrhage of eight ounces of blood occurred from the bowel, and the temperature fell from 105·8° to 100·4°. He became gradually collapsed and died. A post-mortem examination gave no evidence of typhoid fever. Near the cæcum was a small deep ulcer. From the spleen a pure culture of the bacillus of malignant œdema was obtained. Dr. Springthorpe regards both cases as due to the micro-organisms found in association with them.

*Hospital Appointments.*

The Sisters of Charity have made the following appointments at St. Vincent's Hospital, Melbourne:—Hon. Physician, T. F. Riordan, M.D., in place of Dr. MacBurney, resigned; Specialist for Deformities, W. Kent Hughes, M.B.; Resident Medical Officer, S. D. Reed, M.B. At the Women's Hospital, Melbourne, the committee have appointed Amy R. Castilla as assistant resident medical officer.

# Obituary.

## WILLIAM WALKER, M.D. DURH., M.R.C.S. ENG., L.S.A.

THE unexpected death of Dr. Walker has caused general sorrow among the townspeople of Redcar, where he had been in practice for many years. His uncertain hold upon life was not unknown to his medical friends. For several years he had been the subject of glycosuria, notwithstanding which he went on with his work regularly. Last spring he had an attack of laryngitis, which caused his friends much anxiety. In the course of the summer all the symptoms happily subsided, but he nevertheless made arrangements for relinquishing practice during the winter months. Early in November a large carbuncle formed on the neck, and he gradually sank from exhaustion, dying on the 24th of the month. A numerous congregation attended the funeral service in Redcar church, the officiating clergy being the Vicar of Coatham and the chaplain of the Coatham Convalescent Home, of which the deceased was medical officer. The Vicar of Redcar took the service at the graveside in the cemetery. Dr. Walker was a son of Mr. Walker of Rhodes, and was born in 1845 at Radcliffe, near Manchester. He studied in the Manchester Medical School, and held several resident offices in the Royal Infirmary. He was also for two years resident medical officer at the Monsall Fever Hospital, Manchester. Having qualified as L.S.A. in 1874 and M.R.C.S. in 1875 he immediately commenced practice in Coatham in partnership with Dr. George Oliver. In 1889 he took the degree of M.D. at Durham University. He was formerly medical officer of health for Kirkleatham, and at the time of his death was public vaccinator for that district. Dr. Walker was an accomplished musician, and in 1870 acted as organist at St. Luke's Church, Heywood, Manchester. He had no family, but he leaves a widow and an aged mother to mourn their loss, to whom in their bereavement his many friends offer their respectful sympathy.

## FRANCIS BUCHANAN-WHITE, M.D. EDIN., L.R.C.P. & L.R.C.S., F.L.S.

BY the death of Dr. Buchanan-White of Annat Lodge, Perth, a notable figure is withdrawn from the ranks of Scottish naturalists. Although still in the prime of life, as reckoned by years, his health had been failing for several months, and the end came somewhat unexpectedly on the 3rd inst. This sad event is a heavy affliction to his widow and numerous family, as well as to his aged father, Dr. Francis Isaiah White of Atholl-place, Perth, the evening of whose life is now darkened by the untimely loss of his eldest son. Following his father's profession, young White studied in Edinburgh. He passed through the usual medical curriculum with much credit, and in 1864 qualified as L.R.C.P. and L.R.C.S. Edin., and took the degree of M.D. at the University. He was ardently devoted to the study of natural history and kindred branches of science, and not being dependent on his professional earnings he was fortunately able to devote all his energies to the prosecution of his favourite researches. In conjunction with the late Sir Thomas Moncreiffe he founded the Perthshire Society of Natural Science, and for the last quarter of a century was indefatigable in promoting its objects and advancing its usefulness. He was, in fact, the moving spirit of the society, attending all its meetings and enlivening its expeditions to localities of botanical and geological interest. He edited its Transactions, and it is only within the last three or four years that he retired from the position of president; this post he had held over an extended period greatly to the advantage of the cause of natural science in the county. The Natural History Museum in Tay-street, Perth, which is at present being enlarged, owes much to his advocacy and forethought. He was editor of the *Scottish Naturalist*, and a Fellow of the Linnean and Entomological Societies of London. Perhaps the most noteworthy of his contributions to the scientific literature of the day were his monograph on the Deep-sea Insects brought home by the *Challenger* Expedition, and his memoir on British Willows, which was published in the Transactions of

the Linnean Society. Among outdoor sports curling on the ice was one of his special favourites. Dr. White's amiable qualities and genial presence had endeared him to a large circle of friends and acquaintances, by whom his death will be long and deeply felt.

# Medical News.

UNIVERSITY OF LONDON.—The following candidates passed the M.S Examination recently :—

Carwardine, Thomas, Middlesex Hospital.
*Eccles, Wm. McAdam, St. Bartholomew's Hospital.
Paton, Edward Percy, M.D., St. Bartholomew's Hospital.
Platt, John Edward, M.D., Owens College and Manchester Royal Infirmary.
Webber, Hy. Woolmington, M.D., Guy's Hospital.

**The following candidates passed the B.S. Examination :—**

FIRST DIVISION.

Carpmael, Cecil Edward, Guy's Hospital.
Clarke, Julius St. Thomas, M.D., Guy's Hospital.
Cowen, George Hebb, London Hospital.
Davies, Hugh, Guy's Hospital.
Fisher, John Herbert, St. Thomas's Hospital.
Hovenden, Gerald Stanley, Guy's Hospital.
Huntley, Edgar, Guy's Hospital.
Montgomery, William Percy, Owens College and Manchester Royal Infirmary.
Richardson, Sidney W. F., B.Sc., St. Thomas's Hospital.
Selby, Edmond Wallace, University College.
Smith, William Robert, King's College.
Taylor, Edwin Claude, Guy's Hospital.
Wallace, Cuthbert Sidney, St. Thomas's Hospital.

SECOND DIVISION.

Adams, Evelyn Lancelot, Guy's Hospital.
Allan, Arthur Percy, Guy's Hospital.
Bolton, Joseph Shaw, B.Sc., University College.
Bushnell, Frank George, M.D., University College.
Collier, Henry William, Guy's Hospital.
Fielder, Frederick John, King's College.
Hainworth, Edward M., B.Sc., St. Thomas's Hospital.
Hovenden, Arthur Cecil, Guy's Hospital.
Iredale, Joseph Leonard, Yorkshire College.
Manning, Thomas Davys, Guy's Hospital.
Morrison, David, University College.
Murray, Ernest Elias, University College.
Steward, Francis James, Guy's Hospital.
Stoddart, William Henry Butter, University College.
Way, George Harold Cawley, University College.

**The following candidates passed the M.D. Examination :—**

MEDICINE.

Alcock, Samuel King, St. Bartholomew's Hospital.
Aldrich-Blake, L. B., B.S., London School of Medicine and Royal Free Hospital.
Anderson, Annie Mary Slate, London School of Medicine and Royal Free Hospital.
Armstead, Hugh Wells, B.S., St. Bartholomew's Hospital.
Ballance, Herbert Stanley, B.S., King's College.
Brindley, Albert Edward, Owens College and Manchester Royal Infirmary.
Carter, Robert James, King's College.
Clark, William Adams, St. Bartholomew's Hospital.
Clegg, John Gray, B.S., Owens College and Manchester Royal and Workhouse Infirmaries.
Davies, Howard Owen, B.S., St. Bartholomew's Hospital.
Dobson, Joseph, Leeds School of Medicine.
Floyd, Stephen George, B.S., Guy's Hospital.
Given, Jn. Cecil, Mackmurdo University College, Liverpool.
Harrison, Chas. Joseph, B.S., University College.
Hepburn, M. Langton, B.S., St. Bartholomew's Hospital.
Howard, John Alexander, Guy's Hospital.
Jaffé, Charles Samson, B.S., St. Thomas's Hospital.
Jewell, Jn. Wm. Frank, B.S., Guy's Hospital.
Johnson, William, John, B.S., Guy's Hospital.
Johnston, George Saint, Mason and Queen's Colleges, Birmingham.
Jones, William Black, B.S., St. Bartholomew's Hospital.
Kemp, George Lajus, Guy's Hospital.
Lack, Harry Lambert, King's College.
Lister, Thomas David, B.S., Guy's Hospital.
Little, Ernest Graham Gordon, St. George's Hospital.
Martin, Arthur James, General Hospital and Mason College, Birmingham.
Morrison, James, St. Bartholomew's Hospital.
Morton, John Leyden, St. Mary's Hospital.
Nathan, Edward Albert, B.S., St. Mary's Hospital.
Norburn, Albert Edward, B.S., Guy's Hospital.
Nuttall, Arthur Peel, University College.
Pantin, Charles Satchell, B.S., Guy's Hospital.
Purvis, W. Prior, B.S., B.Sc., St. Thomas's Hospital.
Ramsden, Herbert, Owens College and Manchester Royal Infirmary.
†Randall, Martin, B.A., University College.
Roberts, Frank Allan, Yorkshire College.
Rock, Frank Ernest, Middlesex Hospital.
Rogers, Kenneth, St. Bartholomew's Hospital.
Sharp, Arthur John, B.S., Guy's Hospital.
Swayne, Walter Carless, Bristol Medical School and Guy's Hospital.
Taylor, Tom E., B.S., B.Sc., Guy's Hospital.
Thomson, Herbert Campbell, Middlesex Hospital.
*Toller, Seymour G., St. Thomas's Hospital.
Tribe, Ethel Newton, London School of Medicine for Women.
Warrington, William Barnett, Owens College and Manchester Royal Infirmary.
Wilson, Helen Mary, Royal Free Hospital and Vienna.
Young, John, B.S., Guy's Hospital.

STATE MEDICINE.

Coles, Charles, M.D., St. Bartholomew's Hospital.
Griffith, Augustine, M.D., University College.
Hogarth, Bertram W., B.S., Guy's Hospital and University of Edinburgh.
Paine, Alexander, B.S., St. Mary's Hospital.
Willoughby, William George, M.D., St. Bartholomew's Hospital.

* Gold Medal.
† Obtained the number of marks qualifying for the gold medal.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the necessary examinations and conformed to the by-laws and regulations, have been admitted Fellows of the College :—

Hall, Geoffrey Craythorne (Surgeon-Lieutenant-Colonel, Bengal Army), L.R.C.P. Edin., Guy's Hospital; date of Membership, May 2nd, 1871.
Williams, David James, M. and O. R.C.S. Eng., University College Hospital; April 26th, 1877.
Counsell, Herbert Edward, L.R.C.P. Lond., Guy's Hospital; Oct. 22nd, 1884.
Evans, Evan, M.B. Cantab., Cambridge University and St. Mary's Hospital; Jan. 27th, 1886.
Hughes, Samuel Henry, L.R.C.P. Lond., L.S.A., St. Bartholomew's Hospital; Aug. 2nd, 1883.
Farmer, Gabriel William Stabel, M.B. Oxon., L.R.C.P. Lond., Oxford University and London Hospital; May 8th, 1890.
Mills, Yarnold Hubert, M.B. Lond., L.R.C.P. Lond., London Hospital; Feb. 12th, 1891.
Brownlow, Harry Lurgan, L.R.C.P. Lond., St. Bartholomew's Hospital; Feb. 11th, 1892.
Newby, Gervase Edward, L.R.C.P. Lond., University College Hospital; Feb. 11th, 1892.
Carwardine, Thomas, M.B. Lond., L.R.C.P. Lond., Middlesex Hospital; Aug. 1st, 1892.
Selby, Edmond Wallace, M.B. Lond., L.R.C.P. Lond., University College Hospital; Aug. 1st, 1892.
Cresswell, Frank Pearson Skeffington, M.B. Lond., L.R.C.P. Lond., Guy's Hospital; Nov. 10th, 1892.
Pantin, Charles Satchell, M.B. Lond., L.R.C.P. Lond., Guy's Hospital; Feb. 9th, 1893.
Luce, Richard Harman, M.B. Cantab., L.R.C.P. Lond., Cambridge University and Guy's Hospital; May 11th, 1893.
Baldwin, Gerald Robert, L.R.C.P. Lond., Otago University and St. George's Hospital; Nov. 9th, 1893.
Godfrey, Horace Percy, M.B. Melb., Melbourne University; Nov. 9th, 1893.
Crawford, Douglas, M.B., C.M. Edin., Edinburgh and Berlin Universities and University College Hospital; not a Member.
Barratt, John Edward, M.B., C.M. Melb., Melbourne University; not a Member.

One other gentleman passed the examination, but not having attained the legal age of twenty-five years will receive his diploma as a Fellow at a future meeting of the College. Fourteen gentlemen were referred.

**The following gentlemen, having passed the necessary examinations, have been admitted Licentiates in Dental Surgery :—**

Ackland, Charles Herbert, Charing-cross and Dental Hospitals.
Bennett, Norman Godfrey, Cambridge University, St. George's and Dental Hospitals.
Butterworth, John, Owens College and Victoria Dental Hospital, Manchester.
Cave, Urban Edward, Guy's Hospital.
Cannell, Charles, Charing-cross and Dental Hospitals.
Fogg, Ernest, Middlesex and National Dental Hospitals.
Frost, George Edward, Charing-cross and Dental Hospitals.
Gartrell, John Herbert, Charing-cross and Dental Hospitals.
Godfrey, Thomas, Guy's Hospital.
Hands, Francis William, Masons College and Dental Hospitals, Birmingham.
Hardy, Herbert William, Charing-cross and Dental Hospitals.
Headridge, John Parsons, Owens College and Victoria Dental Hospital, Manchester.
Howitt, Herbert George, Guy's Hospital.
Hutson, Edward, Guy's Hospital.
Jones, George Silva, Charing-cross and Dental Hospitals.
Lambert, Francis Ernest Lewis, Guy's Hospital.
Lane, Keith Foster, Middlesex and Dental Hospitals.
Leigh, William Johnson, Charing-cross and Dental Hospitals.
Morris, Lionel Frederick, Guy's Hospital.
Newland, Herbert George, Charing-cross and Dental Hospitals.
Norman, Harry William, Charing-cross and Dental Hospitals.
Partridge, Walter Ericncus, University College and Dental Hospital, Liverpool.
Picton, Edwin, Charing-cross and Dental Hospitals.
Pike, Walter James, Charing-cross and Dental Hospitals.
Pilcher, John, Guy's Hospital.
Prideaux, Charles Sydney, Charing-cross and Dental Hospitals.
Reeve, Alfred, Charing-cross and Dental Hospitals.
Reeve, Norman, Middlesex and National Dental Hospitals.
Rogers, John Percival, Charing-cross and Dental Hospitals.
Rooke, Frederick James Faulkland, Middlesex and Dental Hospitals.
Sibson, Percival Reginald, Owens College and Victoria Dental Hospital, Manchester.
Stabb-Johnson, Edward William, Guy's Hospital.
Steynor, Arnold William, Mason College and Dental Hospital, Birmingham.
Talintyre, Charles, Charing-cross and Dental Hospitals.
Timms, Walter Thomas Day, Middlesex and National Dental Hospitals.
Torpey, Herbert James, Charing-cross and Dental Hospitals.
Watson, Robert, Charing-cross and Dental Hospitals.
Woods, Joseph Ainsworth, University College and Dental Hospital, Liverpool.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. M. Straub has been appointed Extraordinary Professor of Ophthalmology.—*Freiburg:* Dr. Maas has been recognised as *privat-docent* in Medicine.—*Leipsic:* Dr. Lange has been recognised as *privat-docent* in Children's Diseases.—*Santiago* (Spain): Dr. Francisco Piñeiro y Perez has been appointed Professor of Clinical Medicine.

ROYAL METEOROLOGICAL SOCIETY.—THE RECENT FLOODS.—The monthly meeting of this society was held on Wednesday evening, the 19th inst. at the Institution of Civil Engineers, Great George-street, Westminster, Mr. R. Inwards, F.R.A.S., President, in the chair. Mr. H. Southall, F.R.Met. Soc., read a paper on Floods in the West Midlands, in which he gave an interesting account of the great floods which have occurred in the rivers Severn, Wye, Usk, and Avon. His paper was a valuable record of the floods on the Wye at Ross, which he arranges in three classes—viz., (1) primary or highest of all, those of 14 ft. 6 in. and above; (2) secondary, those with a height of from 12 to 14½ ft.; and (3) tertiary, those with a height of from 10 to 12 ft. The height of the recent flood on Nov. 15th, 1894, was 14 ft. 3 in., which was higher than any flood since November, 1852. The flood on the Avon at Bath on November 15th, 1894, is believed to have been the highest on record.

AT a meeting of the Privy Council on Tuesday, Dec. 11th, the appointment of the following gentlemen by the Council of the Pharmaceutical Society of Great Britain as examiners under the Pharmacy Acts was approved and confirmed:—For England and Wales: George Claridge Druce, Percy Faraday Frankland (Professor of Chemistry, Mason College), Alfred William Gerrard, J. Reynolds Green (Professor of Botany in the Pharmaceutical Society's School of Pharmacy), Walter Murton Holmes, Herbert McLeod (Professor of Chemistry, Cooper's-hill College), Francis Ransom, John Edward Saul, A. C. Seward (University Lecturer in Botany, Cambridge), William Henry Symons, Alfred Edward Tanner, and Edmund White. Scotland: Peter Boa, David Brown Dott, Jonathan Innes Fraser, Patrick Geddes (Professor of Botany, University of Dundee), John Gibson (Professor of Chemistry, Heriot Watt College), Thomas Maben, and John William Sutherland.

THE INSTITUTE OF CERTIFICATED SANITARY INSPECTORS.—At the general meeting of this institute, held on Friday, Dec. 14th, at the Parkes Museum, Margaret-street, W., Mr. Matthew Bates, Bromley (Kent) Local Board, read a paper upon the Investigation of Infectious Diseases, and some means of preventing their Spread. Mr. W. H. J. Gathercole (City of London) then gave a most interesting paper upon the subject of Drain Openings inside Buildings, and in the course of his remarks expressed the opinion that in all eating-houses the kitchen arrangements should be at the top of the building, the tendency now being to place them in underground cellars without proper light and ventilation. A discussion amongst the members ensued, and an instructive evening was brought to a close with hearty thanks to Mr. Bates, Mr. Gathercole, and to the chairman, Mr. Wynter Blyth, the medical officer of health of Marylebone, regret being expressed at the unavoidable absence of Mr. W. H. May, the chairman of the council.

THE SEAMEN'S HOSPITAL, LAS PALMAS, GRAND CANARY.—Many vessels call at the Canary Islands in the course of the year, at Las Palmas, the chief town of Grand Canary, and the need of a seamen's hospital there has long been felt. In December, 1891, accommodation for four patients was provided at the house of the Sailors' Mission. In June, 1892 a more commodious house was rented, with a large garden attached; and the accommodation now consists of one ward containing six beds and two separate wards for use as may be required. We have received a report which shows that the first patient was received on Dec. 24th, 1891, and that up to the end of 1892 the admissions numbered thirty-eight, all but one being sailors. This total included twenty-nine of British nationality, eight Germans, and one Norwegian. During the summer and autumn of 1893 most of the vessels arriving were placed in quarantine, so that there was less communication with the shipping than during the previous year, and only twenty-four cases were admitted. The British Vice-Consul is chairman of the committee of management, and makes an earnest appeal for subscriptions, which will be received either by the British Chaplain or by himself, or in London by Messrs. Swanston and Co. 1, Lawrence Pountney-hill, Cannon-street, E.C.

A SERIES of lectures, under the auspices of the National Health Society, by Dr. A. T. Schofield, are arranged for Jan. 2nd, 7th, 9th, and 14th, at 3.30 P.M. each day, and the aim of the lecturer will be to deal in a somewhat familiar style with the general preservation of health.

THE Salters' Company have prepared a scheme for the establishment of Research Fellowships in connexion with St. Thomas's Hospital, the Pharmaceutical Society, and the City and Guilds' Institute. This endowment of science is a welcome evidence of civic munificence and discrimination, and will form a worthy memento of the five-hundredth anniversary of the foundation of the company.

THE Yorkshire Branch of the Incorporated Society of Medical Officers of Health held a meeting in Huddersfield on the 13th inst., at which the Presence of Lead in Potable Water was discussed. Dr. Whitelegge, medical officer of health to the West Riding County Council, remarked that his observations of the action of water in lead gave results not entirely in agreement with those of early experimenters. By means of chalk and lime or carbonate of soda some waters, but not all, could be prevented from dissolving lead. Conflicting views were expressed by other speakers, several of whom referred to the acidity of water as intensifying its action on lead.

THE MEDICAL OFFICERS OF THE CUCKFIELD GUARDIANS.—At the valedictory meeting of the Cuckfield (Sussex) board of guardians, as at present constituted, on Friday, the following resolution was put upon the minutes and a copy ordered to be sent to the officers concerned. It was decided "That the thanks of the board be given to Dr. Wells and all the other medical officers associated with the board in the care of the sick poor in their several districts for their uniformly kind attention to their patients." Sir Henry Fletcher, M.P., who has been for twenty-four years chairman of the board, afterwards entertained the company at lunch.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—A meeting of the south-western division of this association was held at Bailbrook House, Bath, on Dec. 13th. The first paper was one by Dr. Goodall, read by Dr. Bulland, on Certain Questions bearing upon the Problems of Heredity and Alcoholism in connexion with Insanity. Dr. Hubert Bristowe read a paper on the Relationship between General Paralysis and Chronic Renal Disease. The reading of each paper was followed by a discussion. In consequence of Dr. Maury Deas' accident the discussion which he was to have opened had to be postponed. We are glad to learn that Dr. Deas is progressing satisfactorily.

MEDICAL FREEMASONS.—An ordinary meeting of the Æsculapius Lodge was held last week at the Café Royal, Regent-street, Jacob Pickett, M.D., P.M., in the chair. Ernest Clarke, M.D., B.S. Lond., F.R.C.S. Eng., was unanimously elected a joining member. Leonard Wilde, M.D. Durh., D.P.H. Cantab., M.R.C.S. Eng., was admitted into Freemasonry. Among the medical visitors present were T. H. Oppenshaw, M.D. Durh., F.R.C.S. Eng.; James Herron, M.D. R.U.I.; and Walter Gripper, M.A., M.B. Cantab. The vote of £20 for masonic charities was duly confirmed. After the business of the lodge was concluded the brethren dined together, after which the usual loyal and masonic toasts were duly honoured.

## BOOKS ETC. RECEIVED.

CASSELL & COMPANY, London.

Diseases of the Ear. By A. Marmaduke Sheild, M.B. Cantab., F.R.C.S. Illustrated. 1895. pp. 266. Price 10*s.* 6*d.*

CHAMBERS, W. & R., High-street, Edinburgh.

Organic Chemistry. Part II. By W. H. Perkin, jun., Ph.D., F.R.S., and F. Stanley Kipping, Ph.D., D.Sc. Lond. 1895. Price 3*s.* 6*d.*

CHATTO & WINDUS, Piccadilly, London.

Pudd'nhead Wilson. A Tale. By Mark Twain (S. L. Clemens). Illustrated. 1894. pp. 246.

Vernon's Aunt. By Sara J. Duncan. 1894. Illustrated. pp. 200.

Scenes from the Show. By Geo. R. Sims. 1895. pp. 246.

The Suicide Club and The Rajah's Diamond. By R. L. Stevenson. New Edition. Illustrated. 1894. pp. 277.

CHURCHILL, J. & A., New Burlington-street, London.

St. Thomas's Hospital Reports. New Series. Vol. XXII. 1894. Price 8s. 6d.

The Dynamics of Life. By W. R. Gowers, M.D., F.R.S. 1894. pp. 70.

CLAY, C. J., & SONS, Ave Maria Lane, London; and H. K. LEWIS, Gower-street, London.

Manual of Practical Morbid Anatomy, being a Handbook for the Post-mortem Room. By H. D. Rolleston, M.A., M.D., F.R.C.P., and A. A. Kanthack, M.D., M.R.C.P. 1894. pp. 240.

GRIFFIN, CHAS., & Co., Exeter-street, Strand, London.

Kitchen Boiler Explosions: Why they Occur, and How to Prevent their Occurrence. By R. D. Munro, M.I.M.E. Illustrated. 1895. pp. 61.

LEWIS, H. K, Gower-street, London.

The Anatomy of the Nasal Cavity and its Accessory Sinuses. By Dr. A. Onodi. Translated from the Second Edition by St. Clair Thomson, M.D. Lond., F.R.C.S. 1895. Illustrated. Price 6s. net.

Pulse-gauging. A Clinical Study of Radial Measurement and Pulse-pressure. By Geo. Oliver, M.D. Lond., F.R.C.P. 1895. pp. 174. Price 3s. 6d.

The Aseptic Treatment of Wounds. By Dr. C. Schimmelbusch. Translated from the Second German Edition by A. T. Rake, M.B. Lond., F.R.C.S. 1894. pp. 250. Price 5s.

Modern Materia Medica. By A. Helbing, F.C.S. Fourth Edition. 1895. pp. 295. Price 5s.

LIPPINCOTT, J. B., Co., Philadelphia.

Higher Medical Education. The True Interest of the Public and of the Profession. By Wm. Pepper, M.D., LL.D. 1894. pp. 100.

A Treatise on Appendicitis. By George R. Fowler, M.D. 1894. pp. 190.

International Clinics: a Quarterly of Clinical Lectures. By Professors and Lecturers in the leading Medical Colleges of the United States, Germany, France, Great Britain, and Canada. Vol. III. Fourth Series. 1894. pp. 339.

MACMILLAN AND Co., London.

Index to the First Fifty Volumes of The Practitioner: a Journal of Therapeutics and Public Health, 1868 to 1893. 1894. pp. 308. Price 10s. 6d.

PUTNAM'S SONS, Bedford-street, London.

Diagnosis, Differential Diagnosis, and Treatment of Diseases of the Eye. By A. E. Adams, M.D. 1894. pp. 94. Price 5s.

SMITH, ELDER, & Co. Waterloo-ploce, London.

The Evolution of the Diseases of Women. By W. Balls-Headley, M.A., M.D. Cantab., F.R.C.P. Lond. 1894. pp. 375. Price 16s.

THE BIRMINGHAM LITHOGRAPHIC COMPANY, Moor-street, Birmingham.

Night Lights (Shadows from a Doctor's Reading Lamp). By A. B. Frost. Edin. pp. 227.

THE SCIENTIFIC PRESS, Strand, London, W.C.

Helps in Sickness and to Health. By Henry C. Burdett. Illustrated. 1894. pp. 484. Price 5s.

UNWIN, T. FISHER, Paternoster-square, London.

The Lilac Sunbonnet. By S. R. Crockett. Second Edition. 1894. pp. 382.

The Playactress. By S. R. Crockett. 1894. pp. 210. Price 1s. 6d.

Helen. By Oswald Valentine. 1894. pp. 207. Price 1s. 6d.

An Autobiography. By A. Besant. Illustrated. Second Edition. 1894. pp. 368.

WHITTAKER AND Co., Paternoster-square, London, E.C.

Whittaker's Windsor Peerage, Baronetage, and Knightage, 1895. Price 10s. 6d. net.

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The Friend of China, December, 1894 (P. S. King and Son, King-street, Westminster); price 3d.—Bericht des Bundesrates an die Bundesversammlung betreffend die Geschäftsführung und die Rechnung der Alkoholverwaltung pro 1893, vom 9. Nov. 1894.—Science Progress, December, 1894; Bulletin of the Harvard Medical Alumni Association; No. 6, Catalogue (published by the Association, Boston, 1894).—Bulletin of the Harvard Medical Alumni Association; No. 7: Report of the Fourth Annual Meeting held in Boston, June 26th, 1894 (published by the Association, Boston).—Atheroma; by W. A. Hollis, M.D. Cantab, F.R.C.P. Lond.; reprint (Y. J. Pentland, Edinburgh).—The Natural History of Plants; Part 8 (Blackie and Son, London); price 2s. 6d. net.—Polyclinique de l'Hôpital International: des Applications de la Micrographie et de la Bactériologie à la Précision du Diagnostic Chirurgical; par le Dr. Aubeau (Société d'Éditions Scientifiques, Paris, 1894).—L'Insomnie et son Traitement; par Dr. M. de Fleury (Société d'Éditions Scientifiques, Paris, 1894).—From James Henderson, Fleet-street, London; Christmas, 1894, Double Numbers: Old and Young, Snap-shots, Scraps, Weekly Budget with supplement.—From Cassell and Company, Ludgate-hill, London; four Letts's Medical Diaries for daily visits, &c., for 1895, and two Letts's Office Diaries and Almanacs for 1895.—The Epicure, December, 1894; Uric Acid Leukomains as Factors in the Etiology of Migraine and Kindred Nervous Diseases; by B. K. Rachford, M.D. Ohio; reprint (Lea Brothers and Co., Philadelphia, 1894).—Paraxanthia as a Factor in the Etiology of certain obscure Nervous Conditions; by B. K. Rachford, M.D.; reprint (Lea Brothers and Co., Philadelphia, 1894).—Various Forms of Disease the result of Sewage Poisons; by Sir George Johnson, M.D. Lond., F.R.S.; reprint (John Bale and Sons, London, 1894).—The Prevention of Small-pox, with Special Reference to the Origin and Development of the Stamping-out System; by Edgar M. Crookshank, M.B., J.P.; reprint (H. K. Lewis, London, 1894); price 1s.—An Introductory Lecture on the Public, the Profession, and Medical Charities; by Robert Boxall, M.D. Cantab, M.R.C.P. Lond.; with Two Charts and Six Tables; reprint (H. K. Lewis, London, 1894); price 1s.—Second Supplement to Catalogue of Lewis's Medical and Scientific Library, 1891-94 (H. K. Lewis, London, 1894).—On the Natural Immunity against Cholera, and the Prevention of this and other Allied Diseases; by C. Godfrey Gümpel (Williams and Norgate, London, 1894).—The Chairman's Address, read in the Section on Obstetrics and Diseases of Women, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June, 1894; by Joseph Eastman, M.D., LL.D.; reprint (at the office of the Journal of the Association, Chicago, 1894).—Morphinism in Medical Men; by J. B. Mattison, M.D.; reprint from the Journal of the American Medical Association, Chicago, 1894.—From William Collins, Sons, and Co., London, Various Diaries for 1895.—The Modern and Humane Treatment of the Morphine Disease; by J. B. Mattison, M.D.; reprint from Medical Record, December, 1893.—The Royal Natural History, vol. iii., Part 14 (F. Warne and Co., Bedford-street, Strand, London); price 1s. net.—From Chas. Letts and Co., Royal Exchange, London, Charles Letts's Hospital Nurses' Diary and Handbook for 1895.—Twenty-sixth Annual Report relating to the Registry and Return of Births, Marriages, and Deaths in Michigan for the year 1892; by the Secretary of State of Michigan (Robt. Smith and Co., Lansing); 1894.—Zur acuten Ueberanstrengung des Herzens und deren Behandlung; von Dr. Th. Schott; zweite unveränderte Auflage (J. F. Bergmann, Wiesbaden, 1894).—Magazines for December: the Strand Christmas Double Number, the Picture Magazine, the Girl's Quarterly.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ANDERSON, WILLIAM, F.R.C.S., has been appointed Hon. Consulting Surgeon to the Sevenoaks Hospital for Diseases of the Hip.

BRIERLEY, THOS. B., M.B., C.M. Edin., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to the Children's Hospital, Sheffield.

BYRES, H. S., M.B. Durh., M.R.C.S., L.R.C.P., has been appointed Junior House Surgeon to the Northern Hospital, Liverpool.

CHALLENOR, WM., M.R.C.S., has been appointed Medical Officer for the Windle Sanitary District of the St. Helen's Union.

COLERIDGE-ROBERTS, W. R., L.D.S., F.P.S. Glasg., has been reappointed Honorary Assistant Dental Surgeon to the Birmingham Dental Hospital.

COTTON, JOHN, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Eccleston Sanitary District, and also Public Vaccinator for the St. Helens District of the St. Helens Union.

DACRE, JOHN, L.R.C.P., M.R.C.S., has been appointed Honorary Surgeon for a further period of seven years to the Hospital for Sick Children and Women, Bristol.

ELLIOTT, HARRY SCOTT, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A. Lond. (late House Physician at St. George's Hospital, London), has been appointed House Surgeon to the West London Hospital.

FORBES, NORMAN HAY, F.R.C.S. Edin., L.R.C.P. Lond., M.R.C.S. Eng. (Exam.), has been appointed an Honorary Life Member of, and Examiner for, the St. John Ambulance Association.

GALLOWAY, JAS., M.D. Aberd., C.M., M.R.C.P. Lond., F.R.C.P. Eng., Assistant Physician to the Great Northern Central Hospital, has been appointed Physician in charge of the Skin Department, Charing-cross Hospital.

HALL, F. DE HAVILLAND, M.D., F.R.C.P., has been appointed Physician to the Westminster Hospital vice Dr. Sturges, deceased.

HOME, G., M.B., C.M. Edin., has been appointed House Physician to the Northern Hospital, Liverpool.

HONEYBURNE, R., M.D. Lond., M.R.C.S., has been reappointed Medical Officer to the Calverley Joint Hospital, Yorks.

HOWARD, F. R., L.D.S., R.C.S., has been reappointed Honorary Assistant Dental Surgeon to the Birmingham Dental Hospital.

JONES, CHARLES STURGES, M.R.C.S. Eng., L.S.A., has been reappointed Medical Officer of Health for Chichester.

MADIN, W. T., L.D.S., R.C.S., has been reappointed Honorary Assistant Dental Surgeon to the Birmingham Dental Hospital.

MOUNTFORD, JAS., L.D.S., R.C.S., has been reappointed Honorary Assistant Dental Surgeon to the Birmingham Dental Hospital.

MURPHY, J. K., L.R.C.P., M.R.C.S., has been appointed extra Midwifery Assistant to the Rotunda Hospital, Dublin.

MUSSEN, A. A., A.B., M.B., B.Ch. Dubl., has been appointed Senior House Surgeon to the Northern Hospital, Liverpool.

NADEN, P. T., L.S.A. Lond., L.D.S., F.P.S. Glasg., has been reappointed Honorary Dental Surgeon to the Birmingham Dental Hospital.

O'BRYEN, J. WHEELER, has been appointed Medical Officer to the Crystal Palace District Gas Company.

PARROTT, F. C., L.D.S., R.C.S., has been reappointed Honorary Assistant Dental Surgeon to the Birmingham Dental Hospital.

SMITH, WILLIAM R., M.B., B.S. Lond., has been appointed Medical Registrar to King's College Hospital.

SOMERVILLE, J., M.D., M.S. Glasg., has been appointed Medical Officer for the Neepsend Sanitary District of the Sheffield Union.

# Vacancies.

CHELSEA, BELGRAVE, AND BROMPTON DISPENSARY, 41, Sloane-square, S.W.—Honorary Physician.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, London, S.W.—Two Honorary Physicians to In-patients. One Honorary Surgeon to In-patients. Three Honorary Physicians to Out-patients. One Honorary Surgeon to Out-patients. Honorary Pathologist and Registrar.

DEVON AND EXETER HOSPITAL, Exeter.—Assistant House Surgeon, unmarried. Salary, £40 per annum, with board and lodging, not including alcoholic liquors and aerated waters.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Two Assistant Physicians.

HOSPITAL FOR WOMEN, Soho-square, London.—House Physician. Salary £30 for six months, with board, &c.

JESSOP HOSPITAL FOR WOMEN, Sheffield.—House Surgeon, unmarried. Salary £50 per annum, with board, lodging, and washing.

LONDON HOSPITAL MEDICAL COLLEGE, Turner-street, Mile-end, E.—Lectureship on Organic Chemistry. Salary not less than £175 a year.

NOTTINGHAM BOROUGH ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £100 per annum, with apartments, board, and washing.

PAROCHIAL BOARD OF THE BARONY OF GLASGOW.—Senior Assistant to the Medical Superintendent of the Barony Parochial Asylum, Woodilee, Lenzie, near Glasgow. Salary £200 per annum, with board, apartments, &c. Applications to Inspector of Poor, Barony Parish Chambers, 38, Cochrane-street, Glasgow.

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Junior Assistant House Surgeon, unmarried.

STOKE NEWINGTON, STAMFORD-HILL, WEST HACKNEY, AND CLAPTON DISPENSARY, High-street, Stoke Newington, N.—Junior Resident Medical Officer.

WEST HERTS INFIRMARY, Hemel Hempstead.—House Surgeon and Dispenser, who shall also be Assistant Secretary; unmarried, for two years. Salary £100 per annum, with board, furnished rooms, fire, lights, attendance, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—Resident Assistant, a qualified man preferred, for six months. Board, lodging, and washing provided.

YORK COUNTY HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with board, rooms, washing, and attendance.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

# Births, Marriages, and Deaths.

## BIRTHS.

BANKS.—On Dec. 12th, at Greenbank-terrace, Falmouth, the wife of William Banks, M.B. Lond., of a son.

LYLE.—On Dec. 15th, at The Avenue, Castle-hill, Ealing, the wife of Frederick W. Lyle, M.B., of a son.

MARSHALL.—On Dec. 18th, at Waldegrave-park, Strawberry-hill, the wife of F. E. Marshall, L.R.C.P. Lond., M.R.C.S. Eng., of a daughter.

NANKIVELL.—On Dec. 9th, at Penmellyn, Bournemouth, the wife of Herbert Nankivell, M.D., of a daughter.

ROBINSON.—On Dec. 12th, at New-street, Guernsey, the wife of Ernest Laurie Robinson, M.R.C.S. Eng., &c., of a daughter.

ROE.—On Dec. 16th, at West-hill, Wandsworth, S.W., the wife of Dr. A. Dumville Roe, of a daughter.

SHEARER.—On Dec. 13th, at Woodside, Anerley-road, Norwood, the wife of Donald F. Shearer, B.A., M.B. Oxon., F.R.C.S. Eng., of a daughter.

SMITH.—On Dec. 16th, at Southend-on-Sea, the wife of Henry Cleveland Smith, M.R.C.S. Eng., D.P.H. Cantab., of a daughter.

## MARRIAGES.

CARLING—HARWOOD.—On Dec. 18th, at the Free Christian Church, Croydon, William Carling, M.B., Highland-road, Southsea, to Lucy, daughter of the late W. R. Harwood of Glebelands, Mitcham.

CHEYNE—SMITH.—On Dec. 12th, at St. Mildred's Church, Lee, S.E., by the Rev. T. J. Henderson, Vicar of Farley and Pitton, Salisbury, assisted by the Rev. F. W. Helder, Vicar of the Parish, W. Watson Cheyne, F.R.S., F.R.C.S., of 75, Harley-street, W., to Margaret, second daughter of the late George Smith, S.S.C., of Lerwick, Shetland. No cards.

GORDON—HOUGHTON.—On Nov. 27th, at the Parish Church, West Malvern, Colin Gordon, M.B., of Redland-grove, Clifton, to Ethel Houghton, youngest daughter of the late C. J. Houghton of Grand Canary.

ODDIE—BROWN.—On Dec. 12th, at Christ Church, Harrogate, Samuel Ingleby Oddie, M.B., younger son of Ripley Oddie of Pateley Bridge, to Lillian Brown, elder daughter of the late William Brown of Nelson-in-Marsden. Australian papers, please copy.

RUNDLE—SMITH.—On Dec. 18th, at All Saints' Church, Lewes, Frank Carlyon Rundle, L.R.C.P. and S.E., youngest son of the late Cubitt Sparkall Rundle, M.I.C.E., A.I.N.A. (late P.W.D., Punjab, India), to Beatrice Harvey, second daughter of J. Maxfield Smith, Hill House, Lewes.

## DEATH.

WILSON.—On Dec. 13th, at No. 9, Via Tornabuoni, Florence, of pneumonia, Charles Blair Wilson, M.D. Edin.

***N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.***

# Notes, Short Comments & Answers to Correspondents.

## EDITORIAL NOTICE.

**IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.**

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.*

*Lectures, original articles, and reports should be written on one side only of the paper.*

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

*Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."*

*Letters relating to the publication, sale and advertising departments of* THE LANCET *should be addressed "To the Manager."*

*We cannot undertake to return MSS. not used.*

## MANAGER'S NOTICES.

### COVER TO THE LANCET.

THE Manager begs to announce that at the request of many advertisers, and to keep pace with the ever-increasing demand for "position" pages, it has been decided to issue a cover to THE LANCET, commencing with the New Year. The cover will be printed on the same kind of paper as the journal itself, thus ensuring uniformity of appearance with past issues. With this exception of the cover the journal will remain exactly as it was before. The Proprietors cannot consent to the insertion of advertisements in the centre of the paper—a position which has frequently been applied for, but which is annoying to the general reader.

### THE INDEX TO THE LANCET.

THE Index for the current half-year will be published in our next issue, which will complete the second volume of the year 1894. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Manager.

### "BRADFORD THROAT, EAR, AND EYE INSTITUTION."

A NOTICE of this institution has appeared in the lay press, advertising the names of the medical staff, stating that the institution has been founded "with the object of coöperating with and assisting the medical profession of Bradford and its neighbourhood." It boasts of not being a charity, and makes a uniform charge of 3s. 6d. The excuse for such a bold new departure is the pauperising effect of the abuse of the ordinary charities. We cannot congratulate the promoters on their method of warfare, and urge them to reconsider it. If this be allowed, what is to stop any four practitioners, or any one practitioner, setting up an institute for the treatment of any organ of the body or group of organs that they or he may like to take under their or his special care?

*Mr. George Oliver* is requested to communicate more fully, as the utility of an interview cannot be recognised.

*D. F.* (Bradford).—We never recommend individual practitioners.

### DISTRICT MEDICAL OFFICERS AND THEIR ALLEGED DISQUALIFICATIONS.

*To the Editors of* THE LANCET.

SIRS,—Are all district medical officers to unions disqualified from being appointed medical officers of health to a rural sanitary authority? If so, cannot steps be taken to remove the same disqualifications? The following are my reasons for asking this. Some three weeks back I was

a candidate for the appointment of medical officer of health to the Ashby-de-la-Zouch rural sanitary authority. At the election the clerk to the board read some communication from the Local Government Board (which by-the-bye, was received from them, I believe, in the year 1886, when the late medical officer of health was appoin ted), in which they said "if the guardians elect a man who is already a district medical officer to the union we shall not consent to repayment of half the fees": this at once excluded the district medical officers. In the same letter they say "we will consent to them being appointed to an urban sanitary board." Myself I fail to see the difference between these two authorities so far as the medical officer of health's duties and payment are concerned. I consider this disqualification most unjust and unfair to district medical officers in general, and if through the medium of THE LANCET this can be removed or otherwise, as you may advise, I as a humble representative of district medical officers will be grateful.

I am, Sirs, yours faithfully,

Dec. 17th, 1894. D.M.O.

**** We think the writer labours under a misapprehension, for we are certain that no disqualification attaches to district medical officers as such. The Local Government Board have long contended that the practice of appointing district medical officers to be medical officers of health for their respective Poor-law districts, quite regardless of their competency to perform health duties, has operated injuriously to the public health service. It has lowered the salaries for health officers, and it has led to a single rural sanitary authority having four and five advisers as to their sanitary functions instead of one, and where these advisers have differed the authority has done nothing. In a number of such instances inquiry into the sanitary administration of the district has led the Local Government Board to refuse consent to repayment of half the salaries until a single medical officer of health was appointed to the districts, whether urban or rural; and we know of instances where, with that Board's sanction and full approval, one of the district medical officers who has shown his ability in public health work has received the new appointment. Without seeing the whole correspondence, of which extracts alone are sent to us, we can hardly express our opinion on the individual case.—ED. L.

## "HOW A PRESBYOPE CAN READ WITHOUT THE AID OF GLASSES; AND AN EXCELLENT SUBSTITUTE FOR AN EAR TRUMPET."

*To the Editors of* THE LANCET.

SIRS,—In your impression of Dec. 8th a correspondent calls attention under the above title to the use of a carded pinhole as a help in defective sight, and I think he may be glad of a reference to some very admirable and interesting papers on "The Magnifying Power of Short Spaces and the Transmission of Light through Minute Apertures," by Mr. John Gorham, in the second, third, and fourth volumes of the *Journal of Microscopical Science*, 1853 to 1857. But the card and the pin may both be absent at the time of need, and I find myself constantly resorting to a very efficient substitute which is literally always at hand, inasmuch as it consists of the tips of my right thumb and index and middle fingers, which, when brought nearly close together, leave a small triangular aperture through which, when brought up to the eye, print, which without this help was indecipherable, becomes perfectly legible, and even distant objects—bills on a wall &c.—are easily made out. Very possibly I had seen this small but useful "wrinkle" in some book or paper, but it came over me with the thrill of a discovery one cold winter day when in a railway carriage. I was unable to make out some figures in Bradshaw, and a search for a card and a pin would have involved painful unbuttonings. I am neither myopic nor presbyopic, but being in my eighth decade my sight is not what it used to be, and I cannot get on without spectacles, fingers and thumbs, or pinholes. I do not apologise for noticing the small matter, because I find it is not known by those to whom I have mentioned it, and many folks on the wrong side of sixty will appreciate its usefulness.

I am, Sirs, yours faithfully,

Diss, Norfolk, Dec. 12th, 1894. THOMAS E. MYOT.

### REMEDIES TO REMOVE ALL OBSTRUCTIONS.

THE bill sent us, with the information contained in the correspondence, should be communicated to the police authorities. It is their business and duty to prosecute in such cases. The use of the title "Dr." in the bill is illegal, and the practice boldly proclaimed is contrary to the public interest. We do not understand that the Medical Defence Union lays itself out for relieving the police of their responsibilities.

## A BOGUS DIRECTORY.

*To the Editors of* THE LANCET.

SIRS,—We understand that there is an individual going about to the houses of medical men seeking to obtain a few shillings for the insertion of a name and address in some directory which is supposed to be published at this address. May we be allowed to state that we know of no such directory? We are, Sirs, yours faithfully,

Medical Press Agency, Furnival-street, Holborn, E.C., Dec. 13th, 1894. A. REDDICK AND CO.

### "SWEATING" BY FRIENDLY SOCIETIES.

IT is lamentable to see societies that profess to cater for the working man and to protect his interests dealing most shabbily with the medical profession, and, in fact, applying to its honourable members the system of "sweating." We have before us the set of questions to be answered by medical officers applying for appointment by the "Perpetual Sick Benefit, Levy, Medical Aid, and Dividend Society, and Perpetual Juvenile Friendly Society (registered under the Act, 1875), Grimsby." We append the scale of fees:—

For all Adults ..... 3*s.* per head per annum.
For all Juvenile Members..... ..... 2*s.* ,,
For all Family Groups, including a Mother (the Member) and one to six children under 16 Years of Age (Pregnancy, Childbirth, Miscarriage, or within one month thereafter, not counted as sickness)..... 6*s.* ,,
For all Insurance Examinations for sums up to and including £50, 2*s.* 6*d.*; £100, 5*s.*; £200, 7*s.* 6*d.*
For all Applicants for Membership, Juvenile or Sick and Medical Aid Branch, the Medical Officer to grant a Certificate or otherwise for Sixpence.

I agree to make a thorough personal Medical and Surgical Examination of such applicant for admission, and so to protect the Society ..... and I also agree to Sign all Claim Forms and Weekly Sick Pay Sheets only after visits of or to, and never to allow any unqualified assistant to sign the same.

All this thoroughness from highly educated and responsible men to protect the Society for sixpence! And all medical and surgical services on similar "sweating" terms! The medical profession will one day be true to itself, and make the working classes understand the value of medical faithfulness.

*Medicus.*—We have little to add to our frequent answers to the question submitted to us by our correspondent. The practitioner who is F.R.C.P. & M.R.C.S. is entitled to put the letters on his plate. In the case of the F.R.C.P., we think the source should also be indicated. No intelligent section of the public will confound him with a solicitor or an apothecary. Those who are not intelligent it is not worth while to consider. Any Doctor in any faculty of a university has a right to the title of "Dr.," and to define it further, if he pleases, by defining the faculty. A Bachelor is not, strictly speaking, entitled to the title of "Dr.," and does not get it in his university. It is often conceded to him as a graduate of a university.

## "WANTED, AN ARTIFICIAL NOSE."

*To the Editors of* THE LANCET.

SIRS,—In reply to the inquiry of "A. J. T." *re* "artificial nose," I would advise him to communicate with Mr. H. Grove, L.D.S. (R.C.S.E.), 29, Park-street, Walsall. Some time ago Mr. Grove made a hard palate cheek and half of nose for a patient who had the superior maxillary bone removed, and the result was so successful that it was only on careful examination that the artificial parts could be detected.

I am, Sirs, yours truly,

Gilford, Dec. 8th, 1894. R. MARTIN.

*To the Editors of* THE LANCET.

SIRS,—In answer to your correspondent "A. J. T." I beg to say that in two cases that have come under my notice a most satisfactory improvement in appearance was obtained at a trifling cost by the use of an appliance supplied by Messrs. Cow, Hill and Co., Cheapside.

I am, Sirs, yours faithfully,

Hornsey, N., Dec. 10th, 1894. B. FARADAY GILES, M.D. Durh.

*To the Editors of* THE LANCET.

SIRS,—In reply to your correspondent "A. J. T." we can recommend his patient one of our celluloid artificial noses. The patient colours this material himself to correspond with the surrounding flesh tints.

We are, Sirs, yours faithfully,

Great Portland-street, W., Dec. 10th, 1894. MAYER AND MELTZER

*To the Editors of* THE LANCET.

SIRS,—In reply to your correspondent's query respecting artificial noses in the issue of THE LANCET of Dec. 8th, signed "A. J. T.," I beg to say that we are in the habit of fitting patients with artificial noses. We have several clients continually wearing noses of our make, and which in many instances are difficult to detect by anyone unacquainted with the patient. I am, Sirs, yours faithfully,

Bond-street, Leeds, Dec. 10th, 1894. R. RAUSCHKE.

### "INTERESTING LETTER" BY "DANIEL SUTHERLAND."

THIS "interesting letter" appears in the *Irish Times*, *Falkirk Herald*, &c. The writer's name is not to be found on the Medical Register, but he still subscribes himself Licentiate of the Royal College of Physicians and Surgeons and of the Faculty of Physicians and Surgeons, Glasgow, and also President of the Scottish Christians' Evidence Society, &c., &c., and sends a book free for six stamps on confidential complaints.

"IS THE CODE OF PROFESSIONAL ETIQUETTE BETWEEN MEDICAL MEN OF ANY ADVANTAGE TO THE PUBLIC?"

*Science Siftings* has the following excellent answer to the question:—"Yes, it is certainly a very fortunate thing that the general body of medical men are agreed to hold themselves bound by an exceptionally strict code of business 'ethics,' for only in virtue of this fact is it that the science of physic becomes continually enriched with new accounts of the deaths and other fiascos that result from ill-judged surgery or dosage. Fancy an engineer proclaiming to the world such defects (probably more patent to him than to others) as might develop themselves in a structure for which he was responsible. If, indeed, that sort of thing were done it might prove a vast benefit to engineering science; but in the meantime the individual would be ruined. On the other hand, in the medical world professional men are mutually agreed that failures, which must be so very common to all, shall—excepting for the clinical lessons that they teach—be honourably ignored. Hence it is very seldom that these reports on cases, with which the technical medical journals are filled, appear to be so warped and rose-coloured as the uninitiated would expect. Truth prevails, simply because medical etiquette ensures that personal interests shall not be opposed to it. Thus medical science is improved, which is of the greatest advantage to the public."

*A Layman* asks us if there is any poison whatsoever which is fatal to man that is innocuous to any of the animal world, or *vice versâ*. This is not a question which can be answered, as our correspondent apparently thinks, by a simple Yes or No. To reduce the matter to so simple an issue we should require a definition of the word "poison"; and we think that our correspondent would find it as hard as many toxicologists have found it before him to say exactly what is a poison and what is not. However, leaving out the question of the immunity from the specific poisons of certain diseases which certain animals notoriously enjoy, and considering only the "scheduled"—i.e., the legally accepted poisons—we may answer the query in the negative. All the "scheduled" poisons are, we believe, harmful in some degree or another to animals. The question of dose is a separate one.

*Subscriber.*—The Pharmacy Act, 1868 (Secs. 1-15), does not apply to any legally qualified medical practitioner who, in order to obtain his medical diploma, has passed an examination in pharmacy. Our correspondent is no doubt within the terms of the exemption.

"THE USE OF MENTHOL IN TUBERCULOSIS."

*To the Editors of* THE LANCET.

SIRS,—I have used menthol for a number of years continuously in the treatment of pulmonary tuberculosis both by means of intra-laryngeal and intra-thoracic injections, and therefore my experience is somewhat extensive, whilst I have also given demonstrations of its use in several large hospitals. As such a paper would be too large for insertion in your correspondence column, I shall be very glad to give "F. I. R.," who seeks such information in THE LANCET of Dec. 8th, full instructions if he will communicate with me direct.

I am, Sirs, yours faithfully,

Woodside-place, Glasgow. R. COWAN LEES, M.B.

THE STATUS OF A STUDENT AND THE INTERFERENCE OF THE GENERAL MEDICAL COUNCIL.

A MEDICAL STUDENT has no status as a medical attendant. But the General Medical Council has no jurisdiction over medical students—only over registered practitioners. Neither has the hospital with which he is affiliated. The want of status should have been exposed in court.

*H. D.* (Danehurst).—There is nothing wrong in employing an agent to collect debts. The law contemplates the use of the courts if gentler means fail.

ARSENIC IN GLYCERINE.

*To the Editors of* THE LANCET.

SIRS,—I am not aware that attention has ever been called to the fact that the British Pharmacopœia of 1885, and Additions of 1890, contain no test for the detection in glycerine of this serious impurity. This unfortunate omission will, it is to be hoped, be rectified by the editors when another edition of the volume is issued, and will meanwhile receive the consideration of dispensing chemists and medical men.

I am, Sirs, yours faithfully,

Dec. 15th, 1894. F.C.S.

"EPIDERMIN."

*To the Editors of* THE LANCET.

SIRS,—Adverting to letters in the above connexion which recently appeared in the columns of THE LANCET, we wish now to say that Messrs. W. R. Warner and Co. (to whom we forwarded copies of the correspondence) are not familiar with the above-named preparation. For our part, we are still unable to say by whom it is manufactured.

We are, Sirs, yours faithfully,

London, Dec. 13th, 1894. F. NEWBERY AND SONS.

PROTECTION OF THE MEDICAL PROFESSION.

*Mr. Henry Whitley, F.R.C.P.I., L.K.Q.C.P.I.*, suggests that instead of erasure it would be well for the Council to give more protection to medical men from chemists, pretenders, hernia curers, quacks and others. "If the Council have no power to deal with outsiders &c. they have, as a body, the right to demand power from Government as a means to protect us." There is a good deal to be said for the Council asking for more powers than it has. But a little quackery has always been permitted by English law, and, unfortunately, has always been a little patronised by many who make our laws. The Executive Committee has under its consideration the amendment of the penal clauses of the Medical Acts, and the question raised by our correspondent will have to be seriously considered by the Council. When so much is exacted from the medical profession something more in the way of protection should be afforded.

*A. T.* (Wolverhampton).—We never suggest treatment or recommend individual practitioners. The condition mentioned is neither rare nor dangerous, and does not require the attention of anyone making a special study of it. We advise our correspondent to be guided by the opinion of his medical man.

## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, Dec. 20th, 1894.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Dry Bulb | Wet Bulb | Solar Radia in Vacuo. | Maximum Temp. Shade. | Min. Temp | Rainfall. | Remarks at 8.30 A.M. |
|---|---|---|---|---|---|---|---|---|---|
| Dec. 14 | 30·13 | S.W. | 52 | 52 | 53 | 53 | 50 | 0·02 | Raining |
| ,, 15 | 29·94 | W. | 45 | 43 | 70 | 50 | 45 | 1·13 | Bright |
| ,, 16 | 29·99 | N.W. | 50 | 49 | 55 | 52 | 42 | 0·17 | Cloudy |
| ,, 17 | 30·14 | S. | 41 | 41 | 53 | 53 | 41 | ... | Raining |
| ,, 18 | 29·56 | W. | 53 | 51 | 56 | 54 | 41 | 0·03 | Raining |
| ,, 19 | 29·48 | S.W. | 43 | 42 | 64 | 48 | 42 | 0·16 | Raining |
| ,, 20 | 29·97 | N.W. | 43 | 39 | 62 | 46 | 42 | 0·01 | Cloudy |

# Medical Diary for the ensuing Week.

## OPERATIONS.

### METROPOLITAN HOSPITALS.

**MONDAY.**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.).

**TUESDAY.**—London (2 P.M.), St. Bartholomew's (1.20 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

**WEDNESDAY.**—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), Gt. Northern Central (2.30 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.).

**THURSDAY.**—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

**FRIDAY.**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.), Chelsea (2 P.M.).

**SATURDAY.**—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

**THURSDAY.**—ROYAL INSTITUTION.—3 P.M. Prof. J. A. Fleming: The Working of an Electric Current. (Christmas Lecture.)

**SATURDAY.**—ROYAL INSTITUTION.—3 P.M. Prof. J. A. Fleming: The Working of an Electric Current. (Christmas Lecture.)

**During the week marked copies of the following newspapers have been received:**—*Dundee Advertiser, Sheffield Independent, Bridge of Allan Gazette, Worthing Intelligencer, Essex Newsman, Cheshire Observer, Morning Post, West Kent Advertiser, Blackburn Times, Cheltenham Chronicle, Times of India, Scotsman, Architect, Liverpool Daily Post, City Press, Bristol Mercury, Coventry Herald, Pioneer Mail, Burton Evening Gazette, Builder, Weekly Free Press and Aberdeen Herald, Yorkshire Post, Local Government Chronicle, Leeds Mercury, West Middlesex Standard, Reading Mercury, Mexborough and Swinton Times, Hertfordshire Mercury, Guy's Hospital Gazette, Surrey Advertiser, Local Government Journal, South African, Druggist's Circular (New York), Oil, Paint, and Drug Reporter (New York), St. Bartholomew's Hospital Journal, West Middlesex Advertiser, Durham County Advertiser, Elgin Courant, Perth Constitutional, Hull Daily News, Fife Herald, Morning Leader, Pall Mall Gazette, Evening News, Sun, Westminster Budget, Times, Birmingham Gazette, Eastern Morning News, Southampton Echo, Liverpool Courier, Somerset County Herald, Bridgwater Independent, Leicester Daily Mercury, Cork Daily Herald, &c., &c.*

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U.—University of London, Registrar of.

V.—*Veterinarian, The*, London, Editor of; Viavi Co., The, San Francisco, U.S.A.; Veritas, Southwold.

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Y.—York County Hospital, Secretary of.

## Letters, each with enclosure, are also acknowledged from—

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